ACCESS DB # _____

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Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: MARK BERCH Examiner # : 59193 Date: 12/2/05

Art Unit: 1624 Phone Number: 2- 0663 Serial Number: 10716141

Location (Bldg/Room#): 5C01 (Mailbox #): 5C18 Results Format Preferred (circle): PAPER DISK

****

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: _____

Inventors (please provide full names): _____

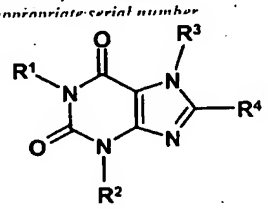
_____

Earliest Priority Date: _____

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional or issued patent numbers) along with the appropriate serial number.*



$R_2 = H/C$

$R_3 = C$, but $R_3 \neq CH_3$

$R_4 = -N$ (C$_n$, C$_5$=N chain) or $-N$ (C$_j$, C$_j$–N) or $-Q'-C$ (C$_n$, C$_5$N) or N–C$_{1-5}$=N or N–C$_p$–C (C$_j$, C$_j$–N) or C$_{2-5}$=N

Q = all chains or

$R_1 = C_n - Q$ (chain only, n = 1-7)

f = 0-4

$Q' = N|C_f|-N-C_f$

Q = –G–E–A or –C(=O)–L

L = (C$_m$) or (C$_j$, CH$_2$)

m = 2-4 ; j = 1-3

E = O | S | N–N | N–O | C–O | C–S(O$_p$) | C=N , p = 0-2

G = C(=O) | C(=S) | C(=N) | C(=O) | S(O$_r$) r = 1-2

A = (O) C$_s$ or Hy–C$_s$ (must be unsaturated) s = 0-7

****

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Searcher Location: _____

Date Searcher Picked Up: _____

Date Completed: _____

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_____ AA Sequence (#)

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_____ Bibliographic

_____ Litigation

_____ Fulltext

_____ Other

Vendors and cost where applicable

_____ STN _____ Dialog

_____ Questel/Orbit _____ Lexis/Nexis

_____ Westlaw _____ WWW/Internet

____ In-house sequence systems

____ Commercial ____ Oligomer ____ Score/Length

____ Interference ____ SPDI ____ Encode/Transl

_____ Other (specify)

Structure search in REGISTRY (cross to CAPlus, USPatFull)


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DICTIONARY FILE UPDATES:  14 DEC 2005  HIGHEST RN 869939-98-0

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*                                                                   *
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* available and contains the CA role and document type information. *
*                                                                   *
*********************************************************************

Structure search iteration limits have been increased.  See HELP SLIMITS
for details.

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L12             STR
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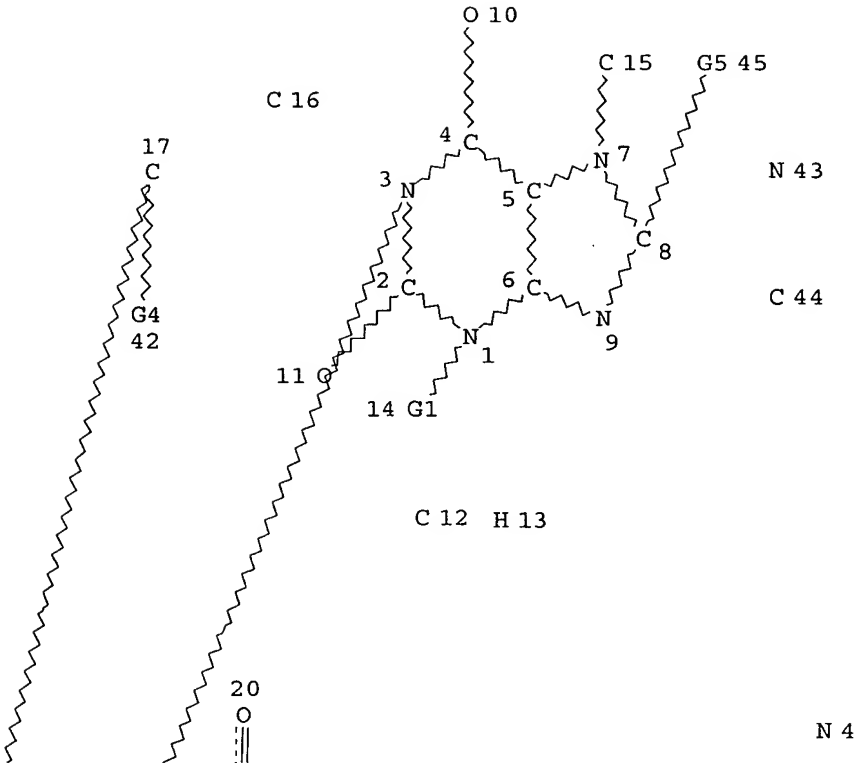

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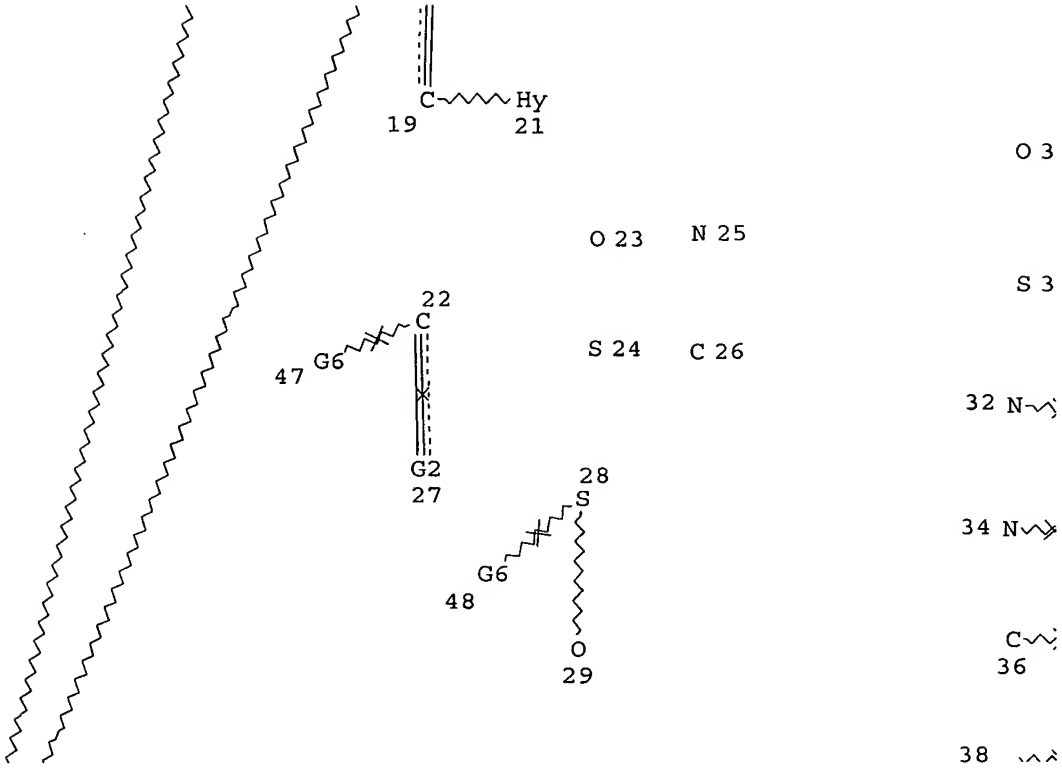
Page 1-B



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O 35

O
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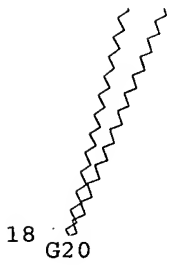
Page 2-B



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VAR G6=30/31/32/34/36/38/40/46
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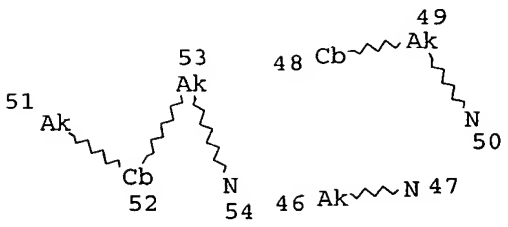

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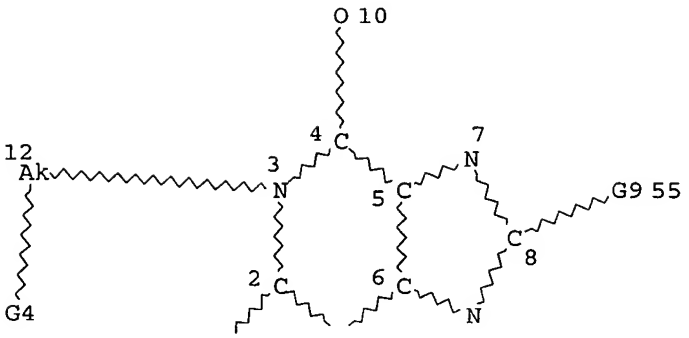

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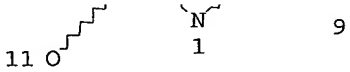

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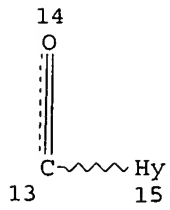

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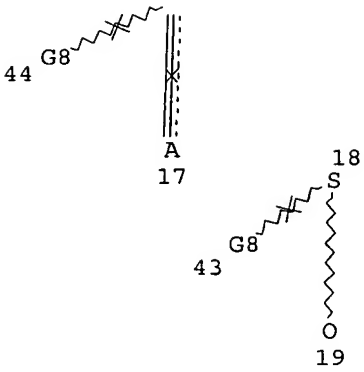

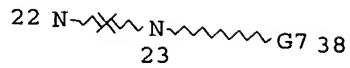

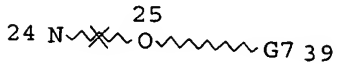

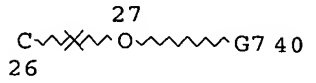

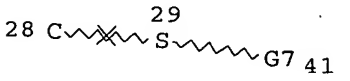

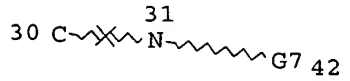

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GRAPH ATTRIBUTES:
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NUMBER OF NODES IS  55

STEREO ATTRIBUTES: NONE
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L14         866 SEA FILE=REGISTRY SSS FUL L12
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FILE LAST UPDATED: 15 Dec 2005 (20051215/ED)
HIGHEST GRANTED PATENT NUMBER: US6976271
HIGHEST APPLICATION PUBLICATION NUMBER: US2005278816
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ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 15 Dec 2005 (20051215/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2005

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>>>  applications.  USPAT2 contains full text of the latest US         <<<
>>>  publications, starting in 2001, for the inventions covered in     <<<
>>>  USPATFULL.  A USPATFULL record contains not only the original     <<<
>>>  published document but also a list of any subsequent              <<<
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>>> publications. The publication number, patent kind code, and <<<
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L27 STR
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L35 3 SEA FILE=USPATFULL ABB=ON PLU=ON L29

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PROCESSING COMPLETED FOR L35
L36 7 DUP REM L30 L35 (0 DUPLICATES REMOVED)
ANSWERS '1-4' FROM FILE CAPLUS
ANSWERS '5-7' FROM FILE USPATFULL

=> d ibib abs hitstr L36 1-7

L36 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:182879 CAPLUS
DOCUMENT NUMBER: 140:235743
TITLE: Preparation of 8-[3-aminopiperidin-1-yl]xanthines as dipeptidylpeptidase-IV (DPP-IV) inhibitors.
INVENTOR(S): Himmelsbach, Frank; Langkopf, Elke; Eckhardt, Matthias; Mark, Michael; Maier, Roland; Lotz, Ralf Richard Hermann; Tadayyon, Mohammad
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma G.m.b.H. & Co. K.-G., Germany
SOURCE: PCT Int. Appl., 226 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2004018468	A2	20040304	WO 2003-EP9127	20030818
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NO 2005000069	A	20050303	NO 2005-69	20050106

PRIORITY APPLN. INFO.:

DE 2002-10238243	A	20020821
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WO 2003-EP9127	W	20030818

OTHER SOURCE(S): MARPAT 140:235743

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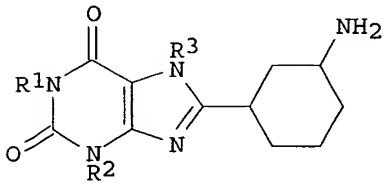

I

AB Title compds. (I; R1 = Me substituted by Me2NCO, pyrrolidin-1-ylcarbonyl, piperidin-1-ylcarbonyl, tert-butylcarbonyl, naphthyl, nitronaphthyl, dimethylaminonaphthyl, phenyloxadiazolyl, quinolinyl, indolyl, cinnolinyl, benzothienyl, etc.; R2 = Me, Me2CH, Ph; R3 = 2-methyl-2-propen-1-yl, 2-chloro-2-propen-1-yl, 3-bromo-2-propen-1-yl, 2-buten-1-yl, 2,3-dimethyl-2-buten-1-yl, 2-butyn-1-yl, 1-cyclopenten-1-ylmethyl, 2-furylmethyl), were prepared Thus, 1,3-dimethyl-7-(2,6-dicyanobenzyl)-8-bromoxanthine (preparation from 8-bromotheophylline and 2-bromomethylisophthalonitrile given), 3-aminopiperidine dihydrochloride, and K2CO3 were heated in DMF for 3 h at 80° to give 14% 1,3-dimethyl-7-(2,6-dicyanobenzyl)-8-(3-aminopiperidin-1-yl)xanthine. I inhibited DPP-IV with IC50 = 1-2160 nM.

IT **668270-29-9P 668270-98-2P 668271-03-2P 668271-15-6P 668271-65-6P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of aminopiperidinylxanthines as dipeptidylpeptidase-IV inhibitors)

RN 668270-29-9 CAPLUS

CN Benzamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA

INDEX NAME)

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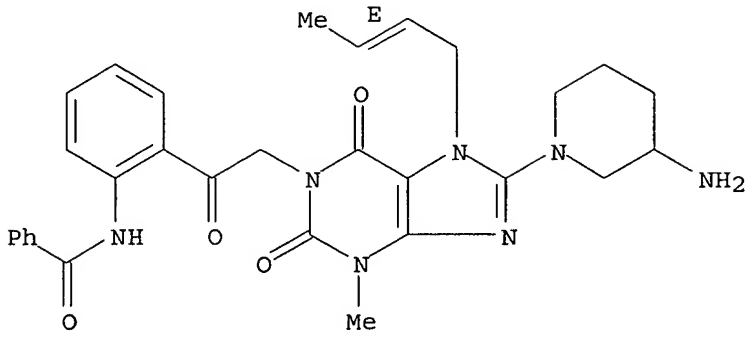
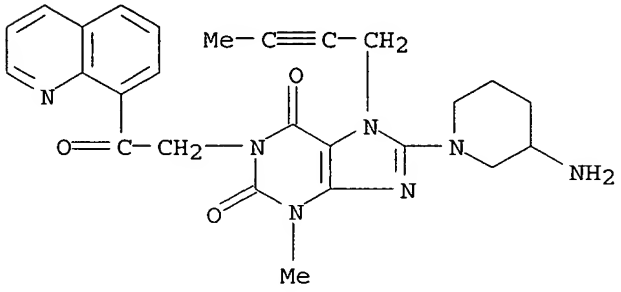
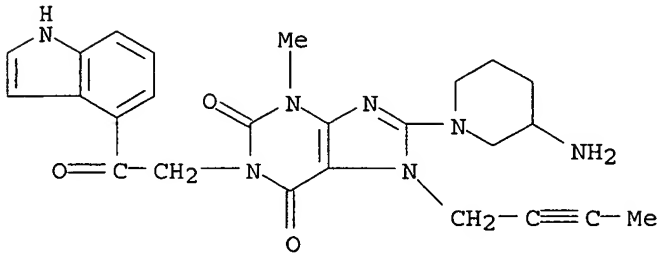


RN 668270-98-2 CAPLUS
CN 1H-Purine-2,6-dione, 8-(3-amino-1-piperidinyl)-7-(2-butynyl)-3,7-dihydro-3-methyl-1-[2-oxo-2-(8-quinolinyl)ethyl]- (9CI) (CA INDEX NAME)



RN 668271-03-2 CAPLUS
CN 1H-Purine-2,6-dione, 8-(3-amino-1-piperidinyl)-7-(2-butynyl)-3,7-dihydro-1-[2-(1H-indol-4-yl)-2-oxoethyl]-3-methyl- (9CI) (CA INDEX NAME)

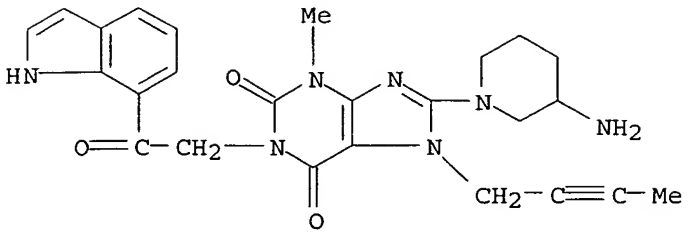


RN 668271-15-6 CAPLUS
CN 1H-Purine-2,6-dione, 8-(3-amino-1-piperidinyl)-7-(2-butynyl)-3,7-dihydro-1-[2-(1H-indol-7-yl)-2-oxoethyl]-3-methyl-, trifluoroacetate (9CI) (CA INDEX NAME)

CM 1

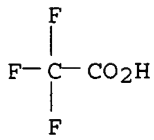
CRN 668271-14-5

CMF C25 H27 N7 O3



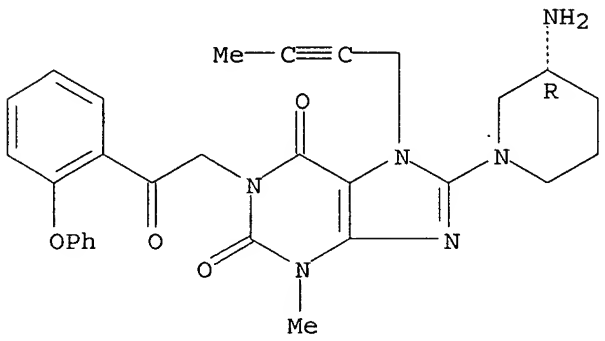
CM 2

CRN 76-05-1
CMF C2 H F3 O2

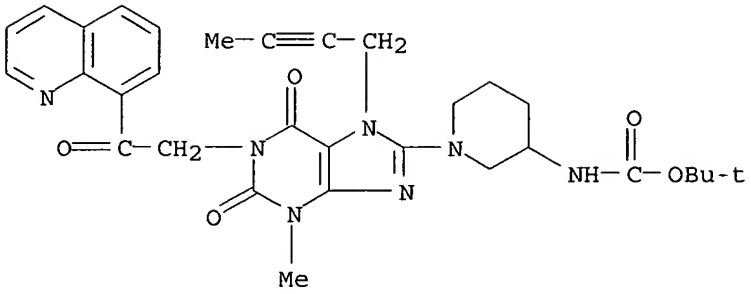


RN 668271-65-6 CAPLUS
CN 1H-Purine-2,6-dione, 8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-3,7-dihydro-3-methyl-1-[2-oxo-2-(2-phenoxyphenyl)ethyl]- (9CI) (CA INDEX NAME)

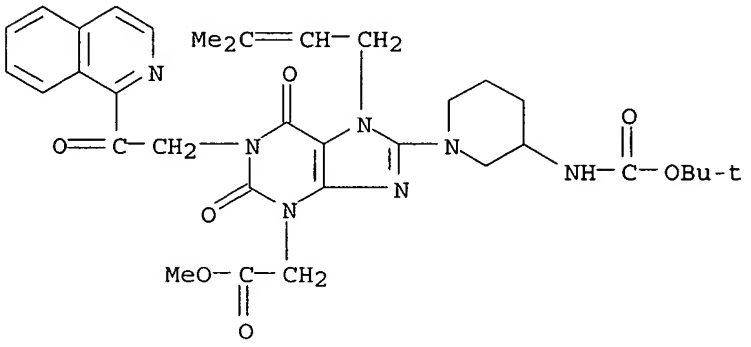
Absolute stereochemistry.



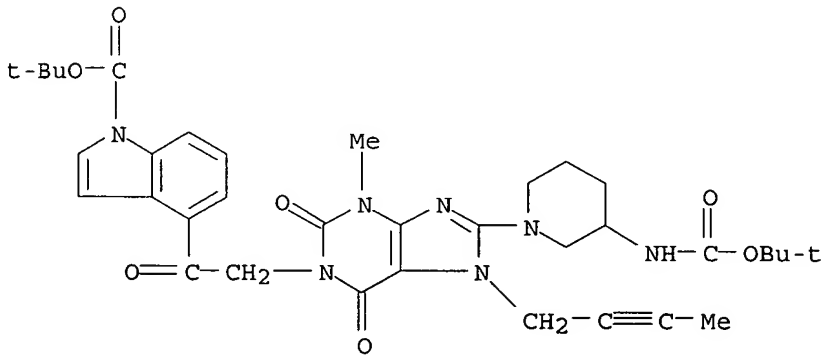
IT **668272-79-5P 668273-56-1P 668274-25-7P**
668274-76-8P 668275-19-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of aminopiperidinylxanthines as dipeptidylpeptidase-IV inhibitors)
RN 668272-79-5 CAPLUS
CN Carbamic acid, [1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-(8-quinolinyl)ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 668273-56-1 CAPLUS
CN 3H-Purine-3-acetic acid, 8-[3-[[(1,1-dimethylethoxy)carbonyl]amino]-1-piperidinyl]-1,2,6,7-tetrahydro-1-[2-(1-isoquinolinyl)-2-oxoethyl]-7-(3-methyl-2-butenyl)-2,6-dioxo-, methyl ester (9CI) (CA INDEX NAME)

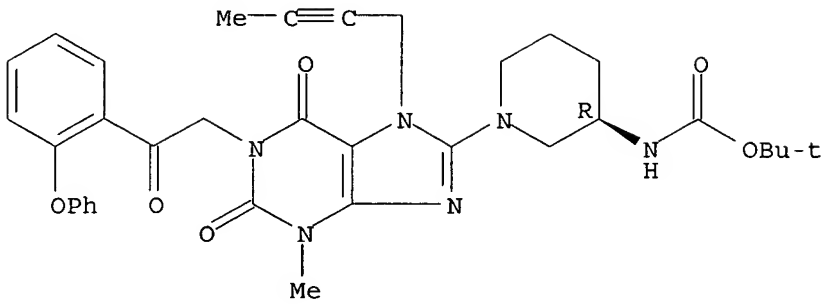


RN 668274-25-7 CAPLUS
CN 1H-Indole-1-carboxylic acid, 4-[[7-(2-butynyl)-8-[3-[[(1,1-dimethylethoxy)carbonyl]amino]-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



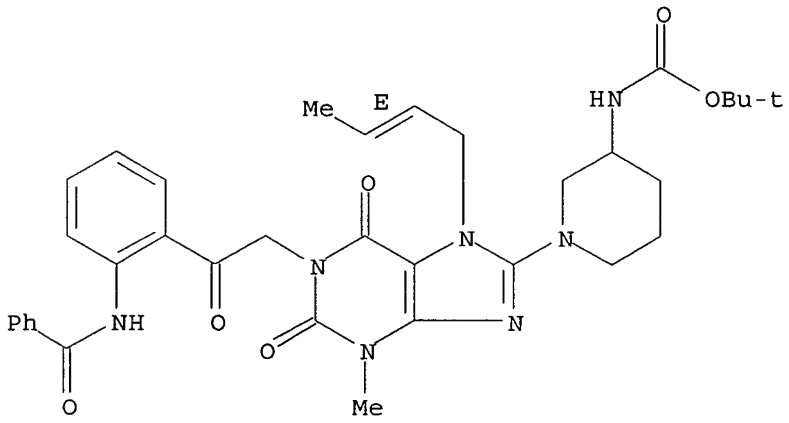
RN 668274-76-8 CAPLUS
CN Carbamic acid, [(3R)-1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-(2-phenoxyphenyl)ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 668275-19-2 CAPLUS
CN Carbamic acid, [1-[1-[2-[2-(benzoylamino)phenyl]-2-oxoethyl]-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



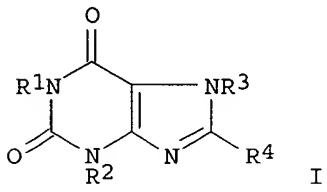
L36 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN

This work

ACCESSION NUMBER: 2004:450501 CAPLUS
DOCUMENT NUMBER: 141:23542
TITLE: Preparation of xanthine derivatives as dipeptidylpeptidase IV inhibitors
INVENTOR(S): Eckhardt, Matthias; Himmelsbach, Frank; Langkopf, Elke; Maier, Roland; Mark, Michael; Tadayyon, Mohammad
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma GmbH & Co. Kg, Germany
SOURCE: Ger. Offen., 31 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10254304	A1	20040603	DE 2002-10254304	20021121

WO 2004046148 A1 20040603 WO 2003-EP12821 20031111
WO 2004046148 C1 20050714
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1565468 A1 20050824 EP 2003-782204 20031111
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
CA 2506720 AA 20040603 CA 2003-2506720 20031117
US 2004138215 A1 20040715 US 2003-716141 20031118
PRIORITY APPLN. INFO.: DE 2002-10254304 A 20021121
US 2002-432450P P 20021211
WO 2003-EP12821 W 20031111
OTHER SOURCE(S): MARPAT 141:23542
GI



I

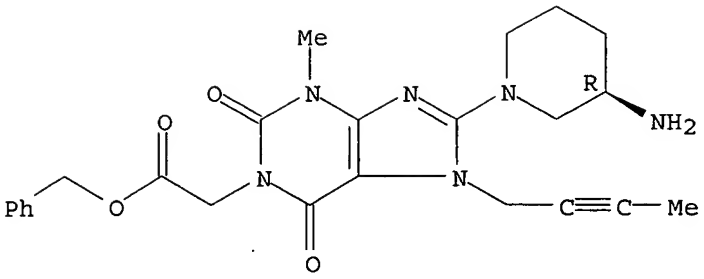
AB Title compds. [I; R1 = ABD; A = (substituted) alkyl, etc.; B = EG; E = O, S, etc.; G = (thio)carbonyl, (imino-substituted) Me, etc.; D = propionyl, (fluorinated) alkyl, alkenyl; R2 = H, alkyl, alkenyl, alkynyl, cycloalkyl, , etc.; R3 = (substituted) alkyl, aryl, furanyl, thienyl, oxazolyl, isoxazolyl, etc.; R4 = (substituted) azetidin-1-yl, pyrrolidin-1-yl, piperidin-1-yl, etc.], were prepared Thus, 1-[(benzyloxycarbonyl)methyl]-3-methyl-7-(2-butyn-1-yl)-8[(R)-3-(tert-butyloxycarbonylamino)piperidin-1-yl]xanthine (preparation given) in CH2Cl2 was shaken with CF3CO2H for 20 min at 30° to give 97% 1-[(benzyloxycarbonyl)methyl]-3-methyl-7-(2-butyn-1-yl)-8[(R)-3-aminopiperidin-1-yl]xanthine. The latter inhibited dipeptidylpeptidase IV (DPP IV) with IC50 = 27 nM.

IT **697806-80-7P 697806-84-1P 697806-90-9P 697806-92-1P 697806-93-2P 697806-95-4P 697806-96-5P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of xanthine derivs. as dipeptidylpeptidase IV inhibitors)

RN 697806-80-7 CAPLUS

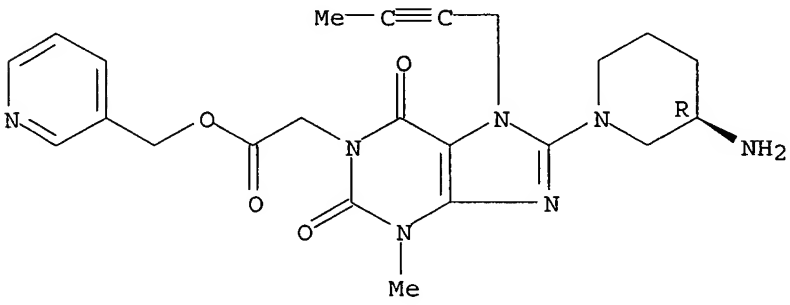
CN 1H-Purine-1-acetic acid, 8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, phenylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

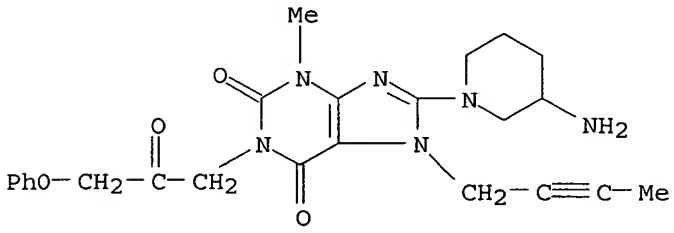


RN 697806-84-1 CAPLUS
CN 1H-Purine-1-acetic acid, 8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, 3-pyridinylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

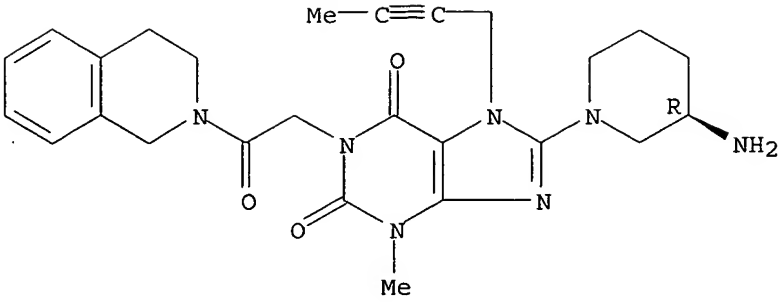


RN 697806-90-9 CAPLUS
CN 1H-Purine-2,6-dione, 8-(3-amino-1-piperidinyl)-7-(2-butynyl)-3,7-dihydro-3-methyl-1-(2-oxo-3-phenoxypropyl)- (9CI) (CA INDEX NAME)



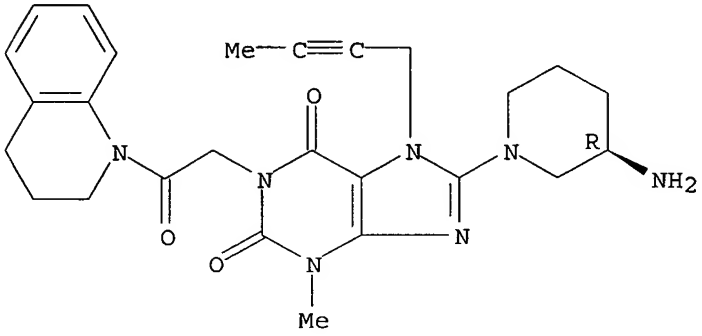
RN 697806-92-1 CAPLUS
CN Isoquinoline, 2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]-1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



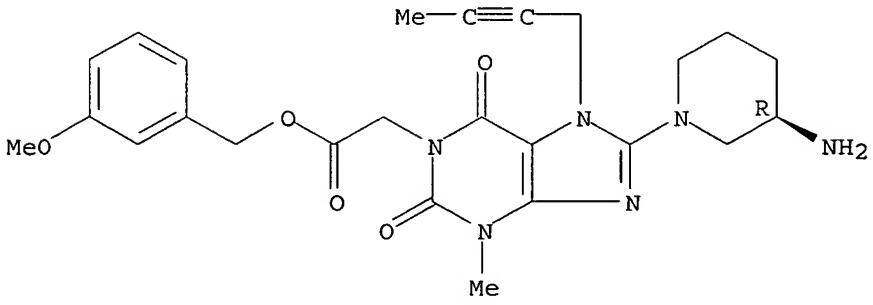
RN 697806-93-2 CAPLUS
CN Quinoline, 1-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]-1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



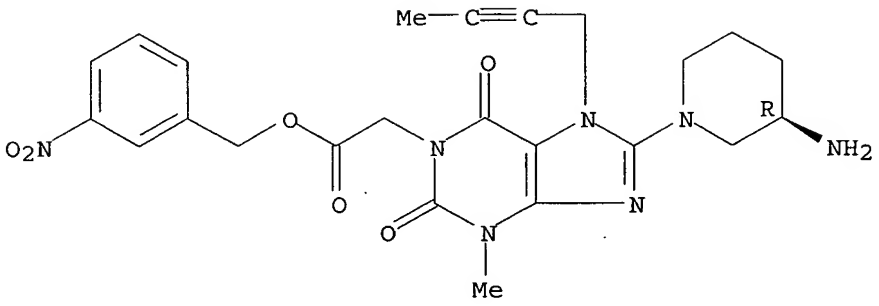
RN 697806-95-4 CAPLUS
CN 1H-Purine-1-acetic acid, 8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, (3-methoxyphenyl)methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 697806-96-5 CAPLUS
CN 1H-Purine-1-acetic acid, 8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, (3-nitrophenyl)methyl ester (9CI) (CA INDEX NAME)

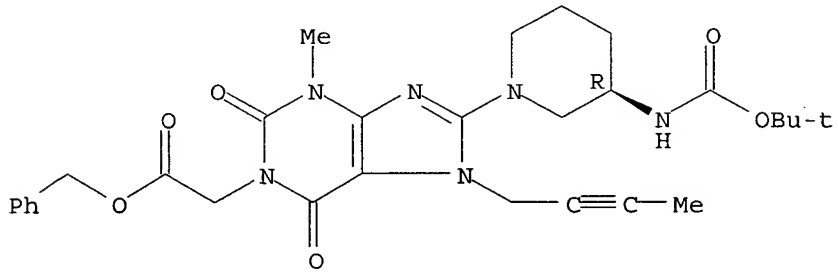
Absolute stereochemistry.



IT **697806-55-6P 697806-59-0P 697806-67-0P 697806-68-1P 697806-72-7P 697806-75-0P 697806-76-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of xanthine derivs. as dipeptidylpeptidase IV inhibitors)

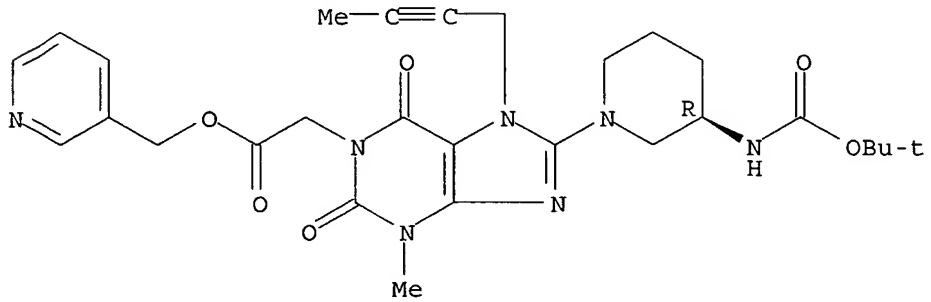
RN 697806-55-6 CAPLUS
CN 1H-Purine-1-acetic acid, 7-(2-butynyl)-8-[(3R)-3-[[(1,1-dimethylethoxy)carbonyl]amino]-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, phenylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



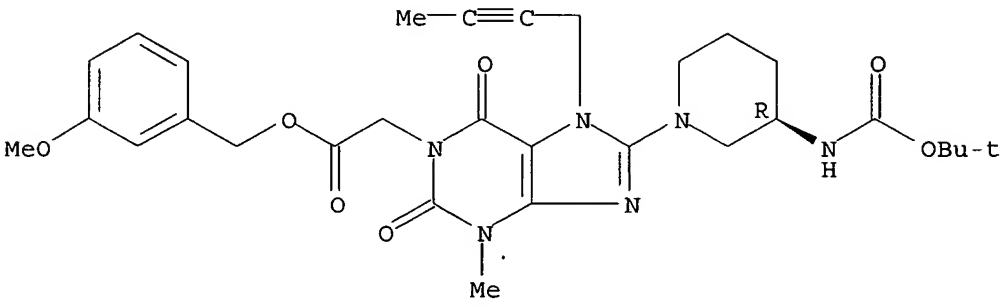
RN 697806-59-0 CAPLUS
CN 1H-Purine-1-acetic acid, 7-(2-butynyl)-8-[(3R)-3-[[(1,1-dimethylethoxy)carbonyl]amino]-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, 3-pyridinylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



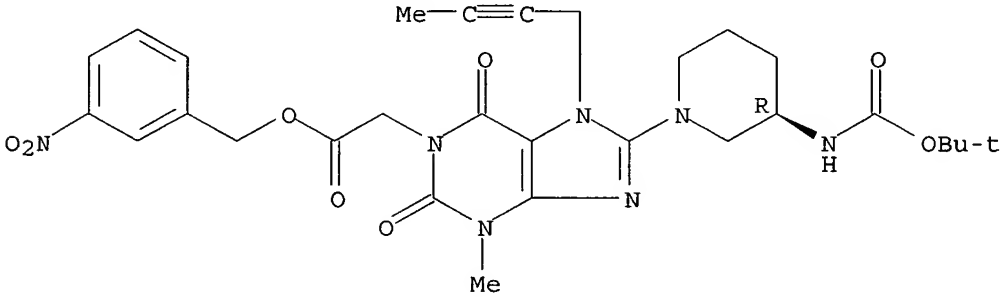
RN 697806-67-0 CAPLUS
CN 1H-Purine-1-acetic acid, 7-(2-butynyl)-8-[(3R)-3-[[(1,1-dimethylethoxy)carbonyl]amino]-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, (3-methoxyphenyl)methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

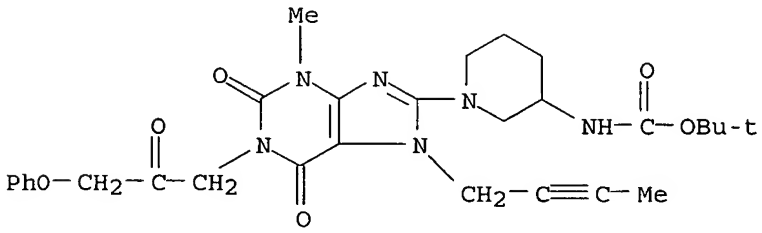


RN 697806-68-1 CAPLUS
CN 1H-Purine-1-acetic acid, 7-(2-butynyl)-8-[(3R)-3-[[(1,1-dimethylethoxy)carbonyl]amino]-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, (3-nitrophenyl)methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



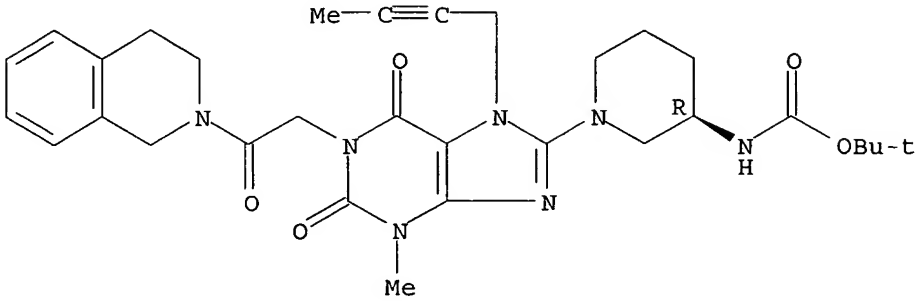
RN 697806-72-7 CAPLUS
CN Carbamic acid, [1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-(2-oxo-3-phenoxypropyl)-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 697806-75-0 CAPLUS
CN Carbamic acid, [(3R)-1-[7-(2-butynyl)-1-[2-(3,4-dihydro-2(1H)-isoquinolinyl)-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-

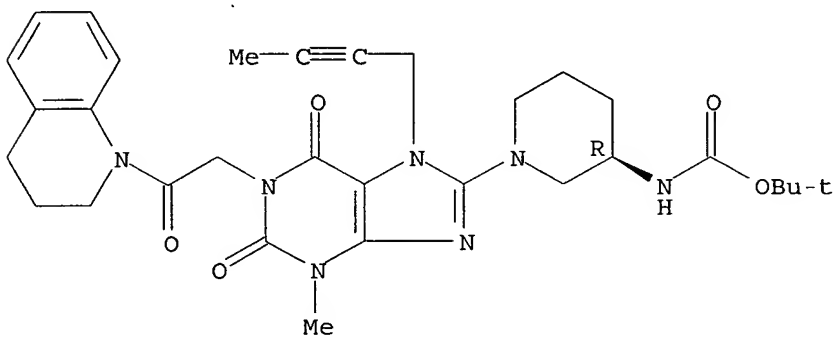
8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 697806-76-1 CAPLUS
CN Carbamic acid, [(3R)-1-[7-(2-butynyl)-1-[2-(3,4-dihydro-1(2H)-quinolinyl)-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

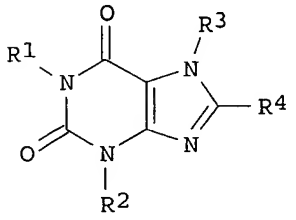


L36 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:177908 CAPLUS
DOCUMENT NUMBER: 140:235733
TITLE: Preparation of xanthines as dipeptidylpeptidase IV inhibitors for the treatment of diabetes
INVENTOR(S): Eckhardt, Matthias; Himmelsbach, Frank; Langkopf, Elke; Maier, Roland; Mark, Michael; Lotz, Ralf
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma G.m.b.H. & Co. K.-G., Germany
SOURCE: Ger. Offen., 22 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

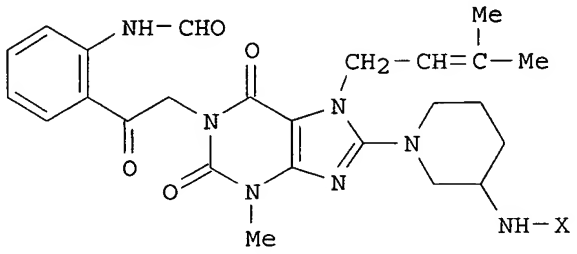
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10238470	A1	20040304	DE 2002-10238470	20020822
US 2004166125	A1	20040826	US 2003-636088	20030807

CA 2496325 AA 20040304 CA 2003-2496325 20030816
WO 2004018467 A2 20040304 WO 2003-EP9096 20030816
WO 2004018467 A3 20040513
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1554278 A2 20050720 EP 2003-792342 20030816
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
PRIORITY APPLN. INFO.: DE 2002-10238470 A 20020822
US 2002-409258P P 20020909
WO 2003-EP9096 W 20030816
OTHER SOURCE(S): MARPAT 140:235733

GI



I



II

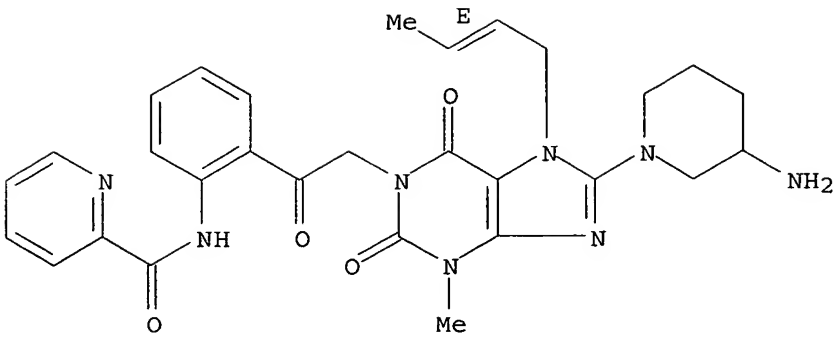
AB Title compds. I [R1 = (un)substituted phenylcarbonylmethyl; R2 = H, alkyl, alkenyl, etc.; R3 = (un)substituted alkyl; R4 = (un)substituted azetidin-1-yl, pyrrolidin-1-yl] and their pharmaceutically acceptable salts were prepared For example, BOC deprotection of amine II (X = Boc), e.g., prepared from 3-Methyl-8-chloroxanthine, via TFA afforded claimed xanthine II (X = H) in 87% yield. In dipeptidylpeptidase IV inhibition assays, 7-examples of compds. I exhibited IC50 values ranging from 3-11 nM, e.g., the IC50 value of xanthine II (X = H) was 5 nM. Compds. I are claimed useful for the treatment of type I and type II diabetes.

IT **666816-82-6P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of xanthines as dipeptidylpeptidase IV inhibitors for the treatment of diabetes)

RN 666816-82-6 CAPLUS

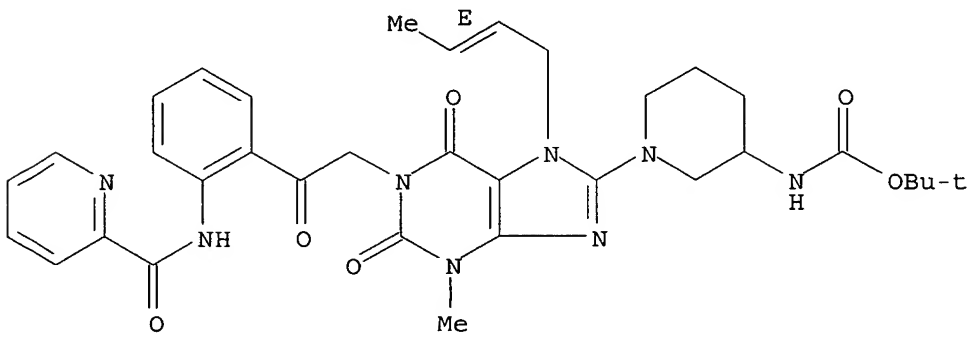
CN 2-Pyridinecarboxamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT **666817-05-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of xanthines as dipeptidylpeptidase IV inhibitors for the treatment of diabetes)
RN 666817-05-6 CAPLUS
CN Carbamic acid, [1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(2-pyridinylcarbonyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

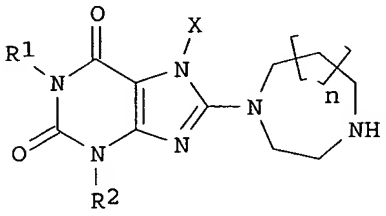
Double bond geometry as shown.



L36 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:675555 CAPLUS
DOCUMENT NUMBER: 139:197299
TITLE: Preparation of xanthine derivatives as DPP-IV inhibitors
INVENTOR(S): Yoshikawa, Seiji; Emori, Eita; Matsuura, Fumiyoshi; Clark, Richard; Ikuta, Hironori; Yasuda, Nobuyuki; Nagakura, Tadashi; Yamazaki, Kazuto; Aoki, Mika
PATENT ASSIGNEE(S): Eisai Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 217 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 1338595 A2 20030827 EP 2003-290431 20030224
EP 1338595 A3 20031008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
JP 2004043429 A2 20040212 JP 2003-44771 20030221
US 2004082570 A1 20040429 US 2003-374918 20030224
PRIORITY APPLN. INFO.: JP 2002-47761 A 20020225
JP 2002-149557 A 20020523
OTHER SOURCE(S): MARPAT 139:197299
GI



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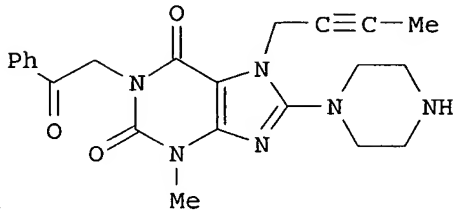


II

AB Novel xanthine derivs. of formula I [R1, R2 = H, alkyl, alkoxy, hydroxyalkyl, cycloalkyl, aryl, etc.; X = alkynyl, (substituted) Ph; n = 0, 1] are prepared which exhibit an excellent dipeptidyl peptidase IV (DPPIV) inhibition effect. Thus, II was prepared, and inhibited DPPIV with IC50 of 0.654 nM, and improved glucose tolerance in mice by 49.4%.

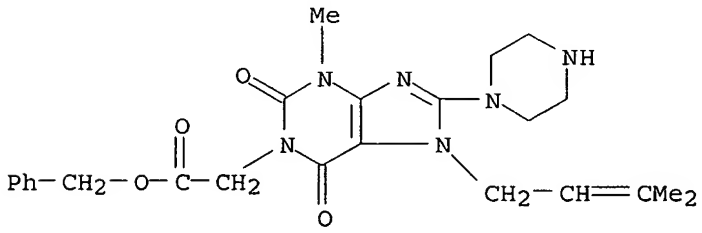
IT **586402-89-3P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of xanthine derivs. as DPPIV inhibitors)

RN 586402-89-3 CAPLUS

CN 1H-Purine-1-acetic acid, 2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-8-(1-piperazinyl)-, phenylmethyl ester, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

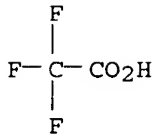
CM 1

CRN 586402-88-2
CMF C24 H30 N6 O4



CM 2

CRN 76-05-1
CMF C2 H F3 O2



L36 ANSWER 5 OF 7 USPATFULL on STN

ACCESSION NUMBER:	2004:215019 USPATFULL
TITLE:	Xanthine derivatives, their preparation and their use in pharmaceutical compositions
INVENTOR(S):	Himmelsbach, Frank, Mittelbiberach, GERMANY, FEDERAL REPUBLIC OF Langkopf, Elke, Warthausen, GERMANY, FEDERAL REPUBLIC OF Eckhardt, Matthias, Biberach, GERMANY, FEDERAL REPUBLIC OF Mark, Michael, Biberach, GERMANY, FEDERAL REPUBLIC OF Maier, Roland, Biberach an der Riss, GERMANY, FEDERAL REPUBLIC OF Lotz, Ralf R. H., Schemmerhofen, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S):	Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004166125	A1	20040826
APPLICATION INFO.:	US 2003-636088	A1	20030807 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2002-DE10238470	20020822
	US 2002-409258P	20020909 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	BOEHRINGER INGELHEIM CORPORATION, 900 RIDGEBURY ROAD, P. O. BOX 368, RIDGEFIELD, CT, 06877
NUMBER OF CLAIMS:	15
EXEMPLARY CLAIM:	1
LINE COUNT:	1596

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compounds of formula (I) ##STR1##

wherein R.sup.1 to R.sup.4 are defined as in the claims, or the prodrugs or salts thereof, particularly the physiologically acceptable salts thereof, pharmaceutical compositions containing these compounds, and methods of treating type I and type II diabetes mellitus, arthritis, obesity, allograft transplantation, or calcitonin-induced osteoporosis using these compounds.

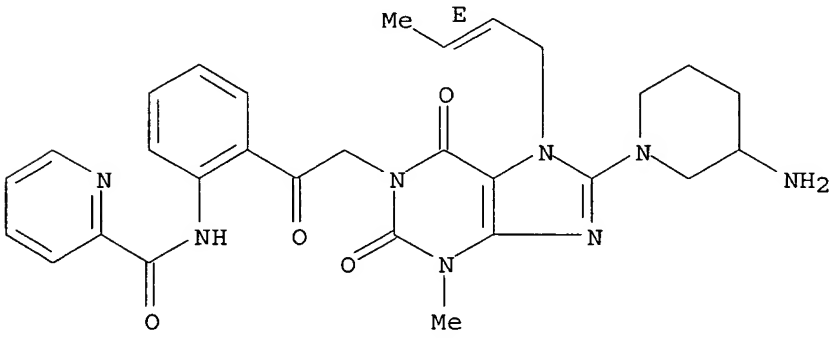
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT **666816-82-6P**
(preparation of xanthines as dipeptidylpeptidase IV inhibitors for the treatment of diabetes)

RN 666816-82-6 USPATFULL

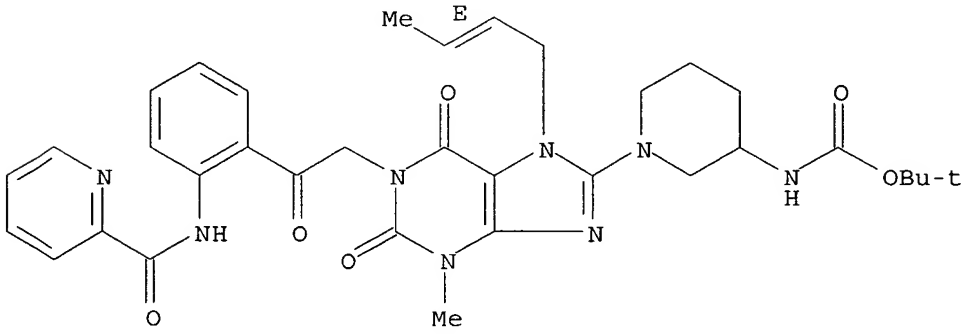
CN 2-Pyridinecarboxamide, N-[2-[[8-(3-amino-1-piperidinyl)-7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IT **666817-05-6P**
(preparation of xanthines as dipeptidylpeptidase IV inhibitors for the treatment of diabetes)
RN 666817-05-6 USPATFULL
CN Carbamic acid, [1-[7-(2E)-2-butenyl-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-[2-oxo-2-[2-[(2-pyridinylcarbonyl)amino]phenyl]ethyl]-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L36 ANSWER 6 OF 7 USPATFULL on STN
ACCESSION NUMBER: 2004:179045 USPATFULL
TITLE: Xanthine derivatives, the preparation thereof and their use as pharmaceutical compositions
INVENTOR(S): Eckhardt, Matthias, Biberach, GERMANY, FEDERAL REPUBLIC OF
Himmelsbach, Frank, Mittelbiberach, GERMANY, FEDERAL REPUBLIC OF
Langkopf, Elke, Warthausen, GERMANY, FEDERAL REPUBLIC OF
Maier, Roland, Biberach, GERMANY, FEDERAL REPUBLIC OF
Mark, Michael, Biberach, GERMANY, FEDERAL REPUBLIC OF
Tadayyon, Mohammad, Ulm, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S): Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim,

GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004138215	A1	20040715
APPLICATION INFO.:	US 2003-716141	A1	20031118 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	DE 2002-10254304	20021121
	US 2002-432450P	20021211 (60)

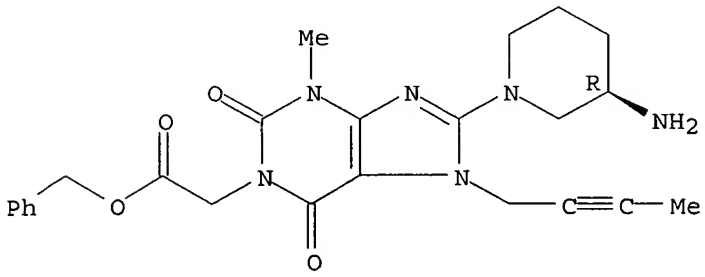
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: BOEHRINGER INGELHEIM CORPORATION, 900 RIDGEBURY ROAD, P. O. BOX 368, RIDGEFIELD, CT, 06877
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
LINE COUNT: 2236
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to substituted xanthines of general formula ##STR1##

the tautomers, the stereoisomers, the mixtures thereof, the prodrugs thereof and the salts thereof, which have valuable pharmacological properties, particularly an inhibitory effect on the activity of the enzyme dipeptidylpeptidase-IV (DPP-IV).

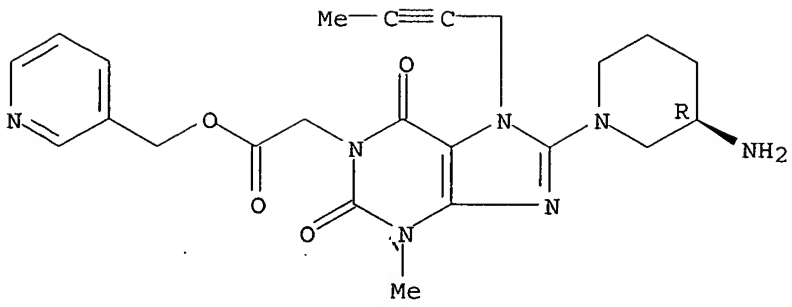
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **697806-80-7P 697806-84-1P 697806-90-9P 697806-92-1P 697806-93-2P 697806-95-4P 697806-96-5P**
(preparation of xanthine derivs. as dipeptidylpeptidase IV inhibitors)
RN 697806-80-7 USPATFULL
CN 1H-Purine-1-acetic acid, 8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, phenylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

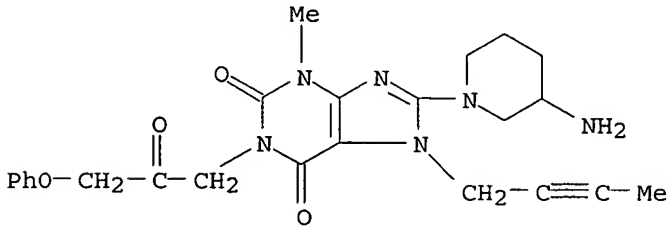


RN 697806-84-1 USPATFULL
CN 1H-Purine-1-acetic acid, 8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, 3-pyridinylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

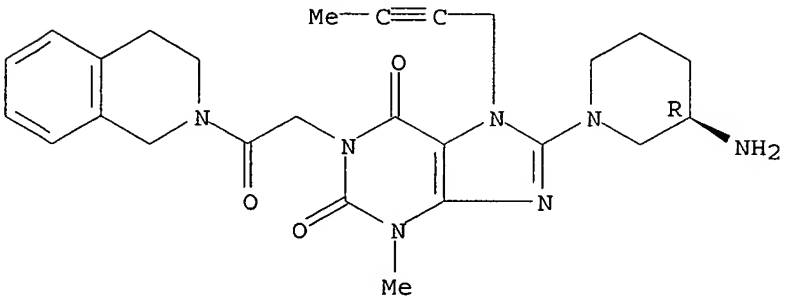


RN 697806-90-9 USPATFULL
CN 1H-Purine-2,6-dione, 8-(3-amino-1-piperidinyl)-7-(2-butynyl)-3,7-dihydro-3-methyl-1-(2-oxo-3-phenoxypropyl)- (9CI) (CA INDEX NAME)



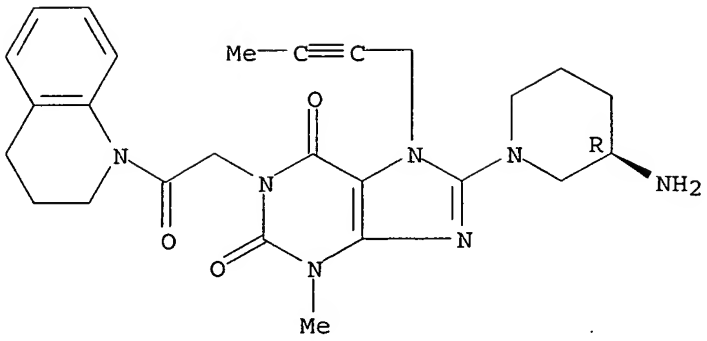
RN 697806-92-1 USPATFULL
CN Isoquinoline, 2-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]-1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



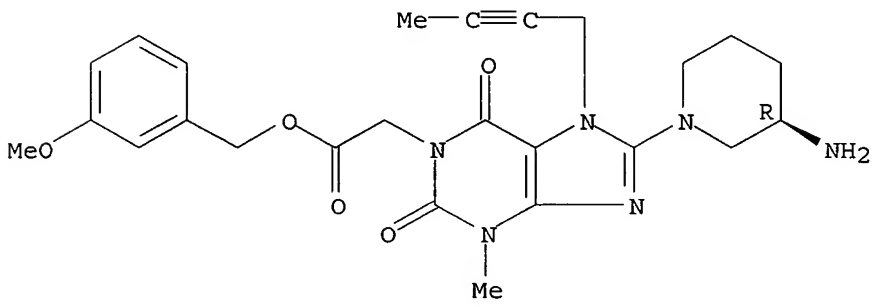
RN 697806-93-2 USPATFULL
CN Quinoline, 1-[[8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-1-yl]acetyl]-1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



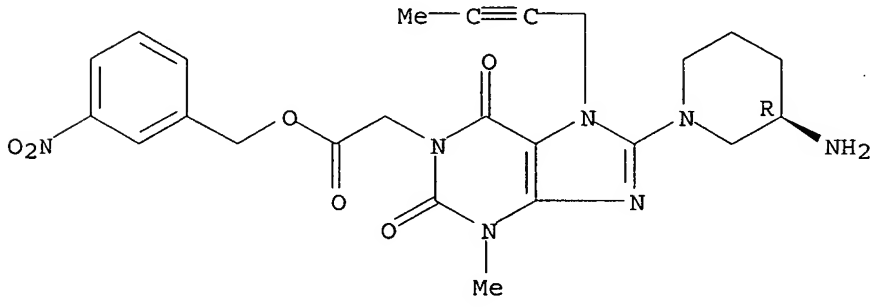
RN 697806-95-4 USPATFULL
CN 1H-Purine-1-acetic acid, 8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, (3-methoxyphenyl)methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 697806-96-5 USPATFULL
CN 1H-Purine-1-acetic acid, 8-[(3R)-3-amino-1-piperidinyl]-7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, (3-nitrophenyl)methyl ester (9CI) (CA INDEX NAME)

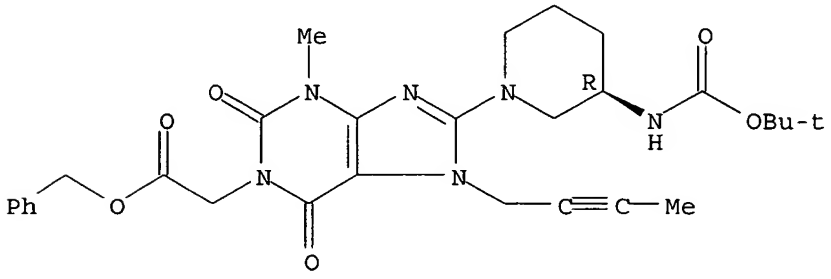
Absolute stereochemistry.



IT **697806-55-6P 697806-59-0P 697806-67-0P 697806-68-1P 697806-72-7P 697806-75-0P 697806-76-1P**
(preparation of xanthine derivs. as dipeptidylpeptidase IV inhibitors)
RN 697806-55-6 USPATFULL

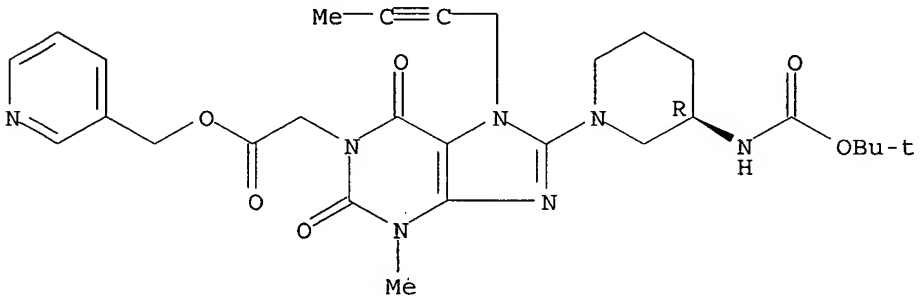
CN 1H-Purine-1-acetic acid, 7-(2-butynyl)-8-[(3R)-3-[[(1,1-dimethylethoxy)carbonyl]amino]-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, phenylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



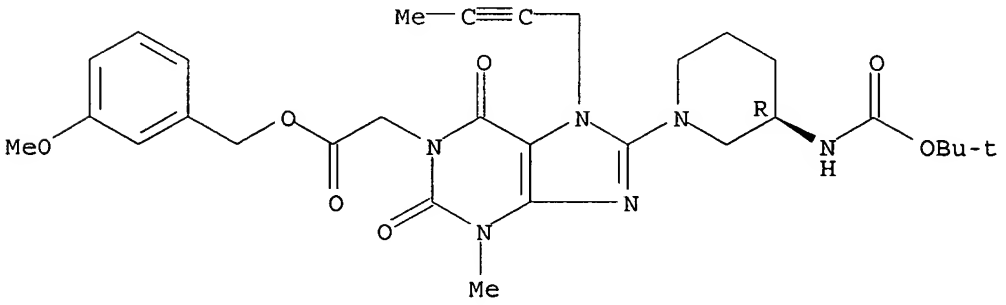
RN 697806-59-0 USPATFULL
CN 1H-Purine-1-acetic acid, 7-(2-butynyl)-8-[(3R)-3-[[(1,1-dimethylethoxy)carbonyl]amino]-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, 3-pyridinylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 697806-67-0 USPATFULL
CN 1H-Purine-1-acetic acid, 7-(2-butynyl)-8-[(3R)-3-[[(1,1-dimethylethoxy)carbonyl]amino]-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, (3-methoxyphenyl)methyl ester (9CI) (CA INDEX NAME)

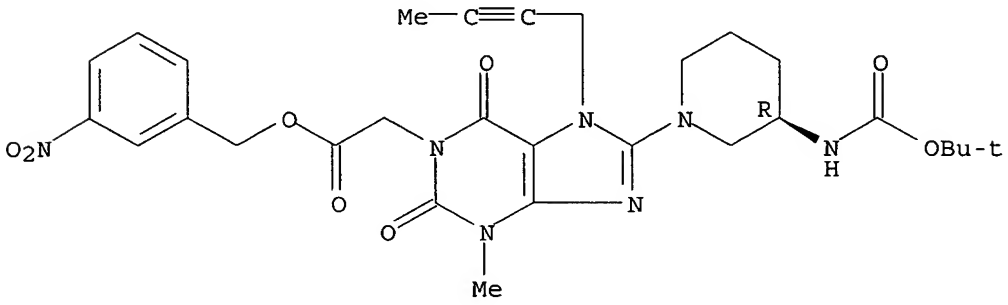
Absolute stereochemistry.



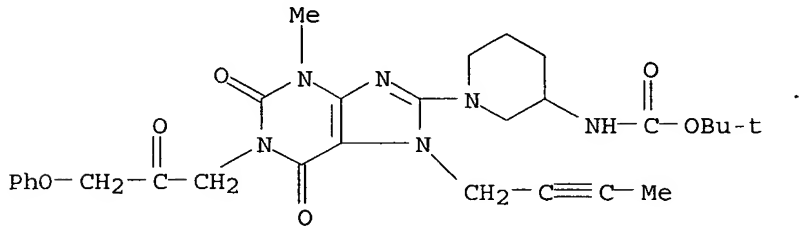
RN 697806-68-1 USPATFULL

CN 1H-Purine-1-acetic acid, 7-(2-butynyl)-8-[(3R)-3-[[(1,1-dimethylethoxy)carbonyl]amino]-1-piperidinyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-, (3-nitrophenyl)methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

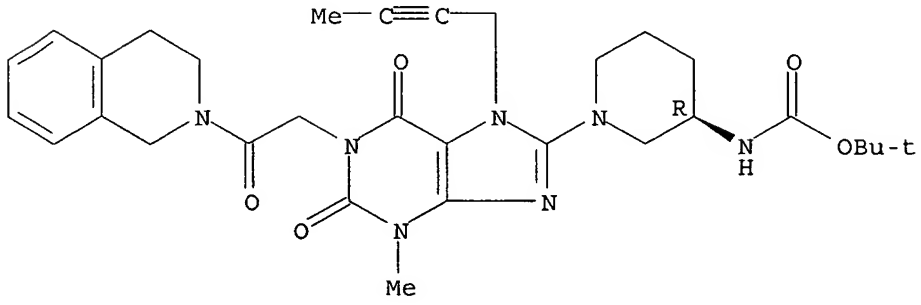


RN 697806-72-7 USPATFULL
CN Carbamic acid, [1-[7-(2-butynyl)-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1-(2-oxo-3-phenoxypropyl)-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 697806-75-0 USPATFULL
CN Carbamic acid, [(3R)-1-[7-(2-butynyl)-1-[2-(3,4-dihydro-2(1H)-isoquinolinyl)-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

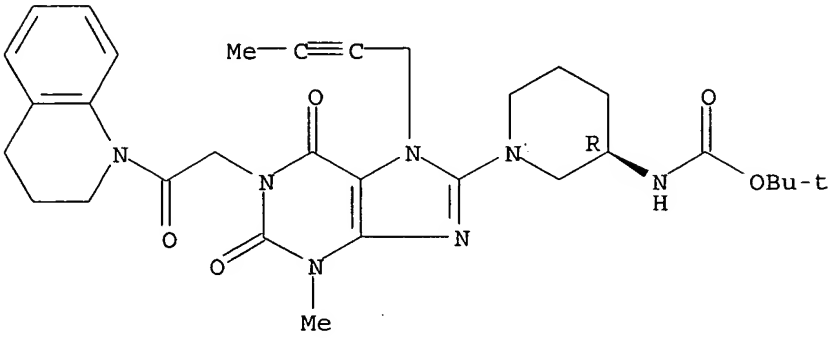
Absolute stereochemistry.



RN 697806-76-1 USPATFULL
CN Carbamic acid, [(3R)-1-[7-(2-butynyl)-1-[2-(3,4-dihydro-1(2H)-quinolinyl)-2-oxoethyl]-2,3,6,7-tetrahydro-3-methyl-2,6-dioxo-1H-purin-8-yl]-3-

piperidinyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L36 ANSWER 7 OF 7 USPATFULL on STN

ACCESSION NUMBER:	2004:108168 USPATFULL
TITLE:	Xanthine derivative and DPPIV inhibitor
INVENTOR(S):	Yoshikawa, Seiji, Ibaraki, JAPAN Emori, Eita, Ibaraki, JAPAN Matsuura, Fumiyoshi, Ibaraki, JAPAN Clark, Richard, Ibaraki, JAPAN Ikuta, Hironori, Ibaraki, JAPAN Yasuda, Nobuyuki, Ibaraki, JAPAN Nagakura, Tadashi, Ibaraki, JAPAN Yamazaki, Kazuto, Ibaraki, JAPAN Aoki, Mika, Ibaraki, JAPAN
PATENT ASSIGNEE(S):	Eisai Co., Ltd., Tokyo, JAPAN, 112-8088 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004082570	A1	20040429
APPLICATION INFO.:	US 2003-374918	A1	20030224 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2002-47761	20020225
	JP 2002-149557	20020523

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834
NUMBER OF CLAIMS:	27
EXEMPLARY CLAIM:	1
LINE COUNT:	7402

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides novel compounds exhibiting an excellent DPPIV inhibition effect.

The compounds are represented by the formula: ##STR1##

wherein, m is 0 or 1;

n is 0;

R.sup.31, R.sup.32, R.sup.33, R.sup.34, R.sup.35, R.sup.36, R.sup.37, R.sup.38, R.sup.39, R.sup.40, R.sup.41, and R.sup.42 each represent a hydrogen atom;

X represents an alkynyl group, an aryl group, and such, which group may be substituted; and,

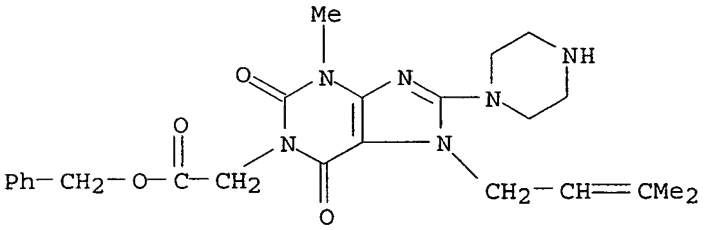
R.sup.1 and R.sup.2each independently represents a hydrogen atom, an alkyl group, an alkoxyl group, or such,

or salts or hydrates thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **586402-89-3P**
(preparation of xanthine derivs. as DPPIV inhibitors)
RN 586402-89-3 USPATFULL
CN 1H-Purine-1-acetic acid, 2,3,6,7-tetrahydro-3-methyl-7-(3-methyl-2-butenyl)-2,6-dioxo-8-(1-piperazinyl)-, phenylmethyl ester, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

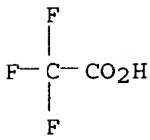
CM 1

CRN 586402-88-2
CMF C24 H30 N6 O4



CM 2

CRN 76-05-1
CMF C2 H F3 O2



Structure search in BEILSTEIN

Berch 10_716141 12/15/2005

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> file beilstein
FILE 'BEILSTEIN' ENTERED AT 16:46:16 ON 15 DEC 2005
COPYRIGHT (c) 2005 Beilstein-Institut zur Foerderung der Chemischen Wissenschaften
licensed to Beilstein GmbH and MDL Information Systems GmbH

FILE LAST UPDATED ON OCTOBER 10, 2005

FILE COVERS 1771 TO 2005.
*** FILE CONTAINS  9,363,954 SUBSTANCES ***

>>>PLEASE NOTE: Reaction Data and substance data are stored in
   separate documents and can not be searched together in one query.
   Reaction data for BEILSTEIN compounds may be displayed
   immediately with the display codes PRE (preparations) and REA
   (reactions).  A substance answer set retrieved after the search
   for a chemical name, a compounds with available reaction
   information by combining with PRE/FA, REA/FA or more generally
   with RX/FA. The BEILSTEIN Registry Number (BRN) is the link
   between a BEILSTEIN compound and belonging reactions. For mo
   detailed reaction searches BRNs can be searched as reaction
   partner BRNs Reactant BRN (RX.RBRN) or Product BRN (RX.PBRN).<<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE  <<<

**********************************************************************
* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST.                 *
* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE    *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE           *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS.                         *
* FOR PRICE INFORMATION SEE HELP COST                                 *
**********************************************************************
    NEW
* PATENT NUMBERS (PN) AND BABS ACCESSION NUMBERS (BABSAN) CAN NOW BE
  SEARCHED, SELECTED AND TRANSFERRED.
* NEW DISPLAY FORMATS ALLREF, ALLP AND BABSAN SHOW ALL REFERENCES,
  ALL PATENT REFERENCES, OR ALL BABS ACCESSION NUMBERS FOR A
  COMPOUND AT A GLANCE.

=> d stat que L33
L12             STR
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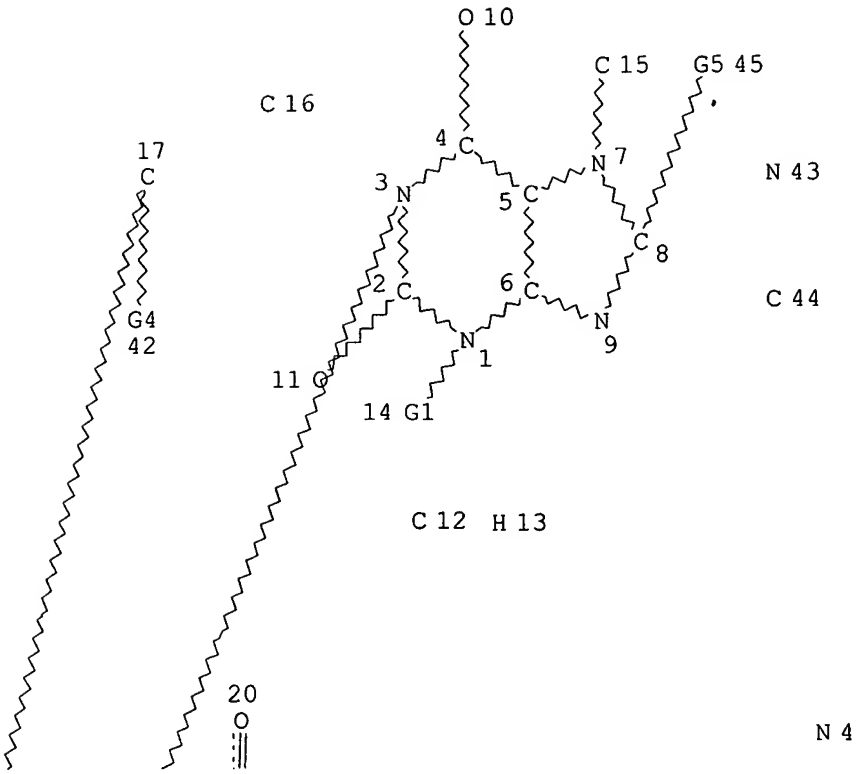
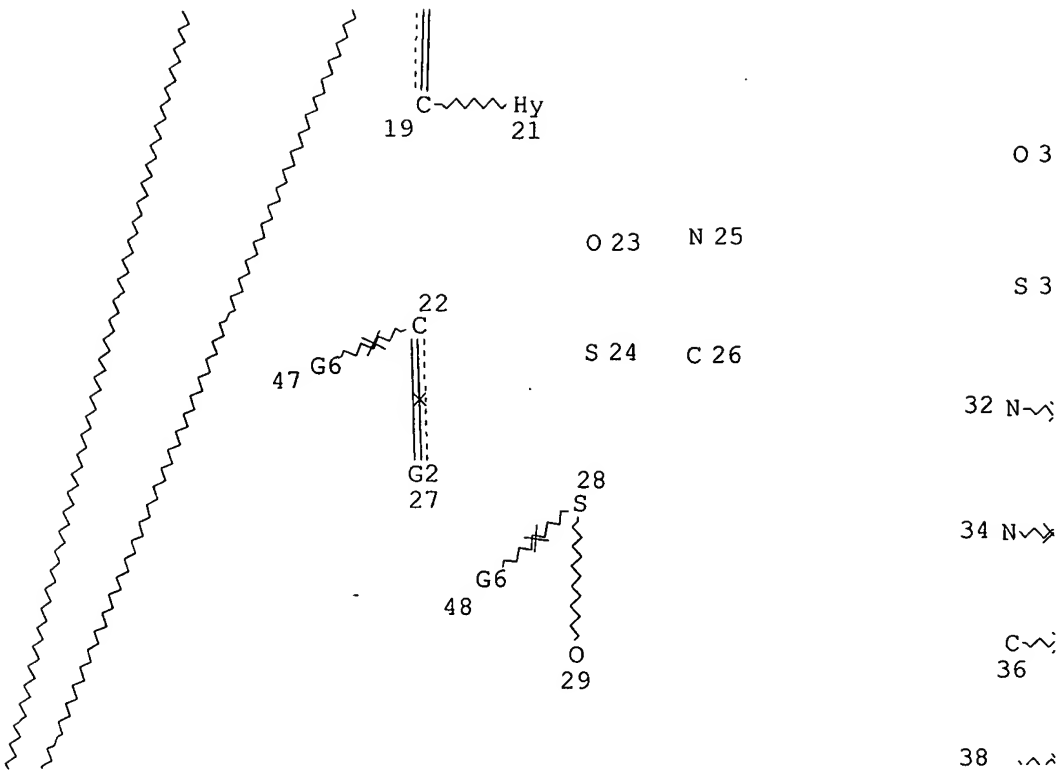


Page 1-A

6

Page 1-B



Page 2-A

30

31

N 33

O 35

O
37

Page 2-B

Page 3-A

S 39

N 41

Page 3-B
VAR G1=12/13
VAR G2=23/24/25/26
VAR G4=19/22/28
VAR G5=43/44
VAR G6=30/31/32/34/36/38/40/46
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NSPEC	IS R	AT	4
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NSPEC	IS C	AT	13
NSPEC	IS C	AT	14
NSPEC	IS RC	AT	15
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NSPEC	IS RC	AT	22
NSPEC	IS RC	AT	23
NSPEC	IS RC	AT	24
NSPEC	IS RC	AT	25
NSPEC	IS RC	AT	26
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NSPEC	IS C	AT	29
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NSPEC	IS RC	AT	31

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NSPEC   IS RC     AT  41
NSPEC   IS C      AT  42
NSPEC   IS RC     AT  43
NSPEC   IS RC     AT  44
NSPEC   IS C      AT  45
NSPEC   IS RC     AT  46
NSPEC   IS RC     AT  47
NSPEC   IS RC     AT  48
CONNECT IS E3  RC AT   2
CONNECT IS E3  RC AT   4
CONNECT IS E2  RC AT   9
CONNECT IS E1  RC AT  10
CONNECT IS E1  RC AT  11
CONNECT IS E1  RC AT  29
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS  AT  10 11 12 13 15 16 17 19 20 22 23 24 25 26 28 29 30
          31 32 33 34 35 36 37 38 39 40 41 43 44 46
GGCAT   IS PCY  LOQ  UNS  AT  21
DEFAULT ECLEVEL IS LIMITED
ECOUNT  IS M1 N  AT  21

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  48

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L27             STR
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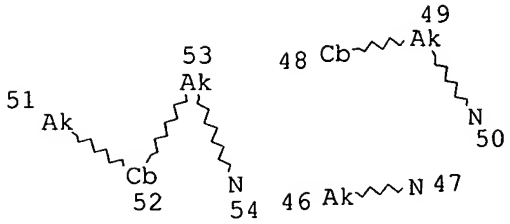

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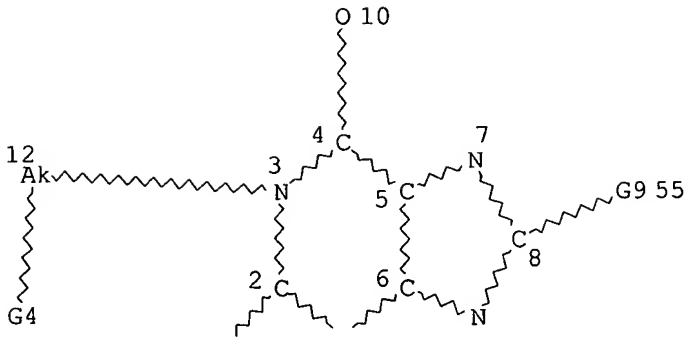

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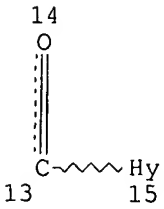
Page 1-A

32

9

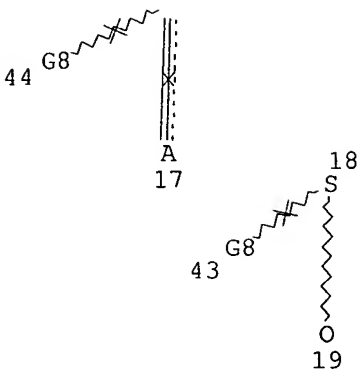
35 Ak Cy 34

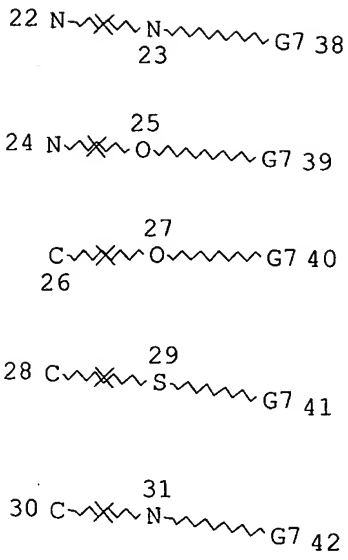


20 O G7 36

21 S G7 37

Page 2-A





Page 3-A
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NSPEC	IS C	AT	11
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NSPEC	IS C	AT	14
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NSPEC   IS C       AT  51
NSPEC   IS C       AT  52
NSPEC   IS C       AT  53
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NSPEC   IS C       AT  55
CONNECT IS E3  RC AT   2
CONNECT IS E3  RC AT   4
CONNECT IS E2  RC AT   9
CONNECT IS E1  RC AT  10
CONNECT IS E1  RC AT  11
CONNECT IS E1  RC AT  19
DEFAULT MLEVEL IS ATOM
MLEVEL  IS CLASS  AT  10 11 12 13 14 16 17 18 19 20 21 22 23 24 25 26 27
          28 29 30 31 33 34 35 45 46 47 48 49 50 51 53 54
GGCAT   IS PCY  LOQ  UNS  AT  15
GGCAT   IS UNS  AT  33
GGCAT   IS UNS  AT  34
DEFAULT ECLEVEL IS LIMITED
ECOUNT  IS M1 N  AT  15

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  55

STEREO ATTRIBUTES: NONE
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L33           0 SEA FILE=BEILSTEIN SUB=L32 SSS FUL L27

100.0% PROCESSED       3 ITERATIONS                          0 ANSWERS
SEARCH TIME: 00.00.02
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Search history


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=> d his full

     (FILE 'HOME' ENTERED AT 11:24:39 ON 15 DEC 2005)

     FILE 'STNGUIDE' ENTERED AT 11:24:46 ON 15 DEC 2005

     FILE 'CAPLUS' ENTERED AT 11:24:48 ON 15 DEC 2005

     FILE 'REGISTRY' ENTERED AT 11:24:49 ON 15 DEC 2005
L1             STRUCTURE UPLOADED
L2           1 SEA SSS SAM L1
               D SCA

     FILE 'CAPLUS' ENTERED AT 11:28:00 ON 15 DEC 2005
               E US2003-716141/APPS
L3           1 SEA ABB=ON  PLU=ON  US2003-716141/AP
               SEL RN

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L4          56 SEA ABB=ON  PLU=ON  (122-60-1/BI OR 140-18-1/BI OR 309956-78-3/
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               D SCA

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L5             0 SEA SSS FUL L1
L6             0 SEA SSS SAM L1

     FILE 'REGISTRY' ENTERED AT 11:31:25 ON 15 DEC 2005
L7          18 SEA SSS FUL L1
               SAVE TEMP L7 BER141STRA/A

     FILE 'CAPLUS' ENTERED AT 11:32:19 ON 15 DEC 2005
L8             2 SEA ABB=ON  PLU=ON  L7
L*** DEL       2 S L4 AND L7

     FILE 'REGISTRY' ENTERED AT 11:32:54 ON 15 DEC 2005
L9             6 SEA ABB=ON  PLU=ON  L4 AND L7
L10           50 SEA ABB=ON  PLU=ON  L4 NOT L9
               D SCA

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     FILE 'REGISTRY' ENTERED AT 14:02:01 ON 15 DEC 2005
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     FILE 'STNGUIDE' ENTERED AT 14:54:37 ON 15 DEC 2005

     FILE 'REGISTRY' ENTERED AT 14:58:05 ON 15 DEC 2005
L12             STRUCTURE UPLOADED
L13          41 SEA SSS SAM L12
L14         866 SEA SSS FUL L12
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L15          38 SEA ABB=ON  PLU=ON  L4 AND L14
L16          18 SEA ABB=ON  PLU=ON  L4 NOT L15
                D SCA

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     FILE 'REGISTRY' ENTERED AT 15:08:57 ON 15 DEC 2005
L17             STRUCTURE UPLOADED
L18          50 SEA SSS SAM L17
L19             STRUCTURE UPLOADED

     FILE 'STNGUIDE' ENTERED AT 15:34:00 ON 15 DEC 2005

     FILE 'REGISTRY' ENTERED AT 15:34:48 ON 15 DEC 2005

     FILE 'STNGUIDE' ENTERED AT 15:34:52 ON 15 DEC 2005

     FILE 'REGISTRY' ENTERED AT 15:37:23 ON 15 DEC 2005
L20             STRUCTURE UPLOADED
L21             STRUCTURE UPLOADED
L22             STRUCTURE UPLOADED
L23          17 SEA SSS SAM L22
L24           5 SEA SUB=L14 SSS SAM L22
                D SCA
L25          72 SEA SUB=L14 SSS FUL L22
                SAVE TEMP L25 BER141STRG/A

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L26           7 SEA ABB=ON  PLU=ON  L25

     FILE 'STNGUIDE' ENTERED AT 16:11:50 ON 15 DEC 2005

     FILE 'REGISTRY' ENTERED AT 16:20:45 ON 15 DEC 2005

     FILE 'STNGUIDE' ENTERED AT 16:20:48 ON 15 DEC 2005

     FILE 'REGISTRY' ENTERED AT 16:24:10 ON 15 DEC 2005
L27             STRUCTURE UPLOADED
L28           3 SEA SUB=L14 SSS SAM L27
                D SCA
L29          29 SEA SUB=L14 SSS FUL L27
                D SCA
                SAVE TEMP L29 BER141STRH/A

     FILE 'CAPLUS' ENTERED AT 16:33:46 ON 15 DEC 2005
L30           4 SEA ABB=ON  PLU=ON  L29
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L31             0 SEA SSS FUL L27
L32             3 SEA SSS FUL L12
L33             0 SEA SUB=L32 SSS FUL L27

     FILE 'MARPAT' ENTERED AT 16:37:11 ON 15 DEC 2005

     FILE 'REGISTRY' ENTERED AT 16:37:43 ON 15 DEC 2005
L34               ANALYZE PLU=ON  L29 1- LC :       3 TERMS
                  D

     FILE 'USPATFULL' ENTERED AT 16:38:04 ON 15 DEC 2005
L35             3 SEA ABB=ON  PLU=ON  L29

     FILE 'STNGUIDE' ENTERED AT 16:40:42 ON 15 DEC 2005

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                  D STAT QUE L29
                  D L34

     FILE 'CAPLUS' ENTERED AT 16:42:31 ON 15 DEC 2005
                  D QUE NOS L30
                  D QUE NOS L35

     FILE 'REGISTRY' ENTERED AT 16:43:20 ON 15 DEC 2005
                  D STAT QUE L29
                  D L34

     FILE 'CAPLUS' ENTERED AT 16:43:38 ON 15 DEC 2005
                  D QUE NOS L30

     FILE 'USPATFULL' ENTERED AT 16:43:50 ON 15 DEC 2005
                  D QUE NOS L35

     FILE 'CAPLUS, USPATFULL' ENTERED AT 16:44:10 ON 15 DEC 2005
L36             7 DUP REM L30 L35 (0 DUPLICATES REMOVED)
                        ANSWERS '1-4' FROM FILE CAPLUS
                        ANSWERS '5-7' FROM FILE USPATFULL
                  D IBIB ABS HITSTR L36 1-7

     FILE 'STNGUIDE' ENTERED AT 16:46:02 ON 15 DEC 2005

     FILE 'BEILSTEIN' ENTERED AT 16:46:16 ON 15 DEC 2005
                  D STAT QUE L33

     FILE 'STNGUIDE' ENTERED AT 16:49:49 ON 15 DEC 2005


     FILE HOME

     FILE STNGUIDE
     FILE CONTAINS CURRENT INFORMATION.
     LAST RELOADED: Dec  9, 2005 (20051209/UP).

     FILE CAPLUS

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FILE COVERS 1907 - 15 Dec 2005 VOL 143 ISS 25
FILE LAST UPDATED: 14 Dec 2005 (20051214/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/infopolicy.html

FILE REGISTRY
Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 14 DEC 2005 HIGHEST RN 869939-98-0
DICTIONARY FILE UPDATES: 14 DEC 2005 HIGHEST RN 869939-98-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

****
* *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
* *
****

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

FILE LREGISTRY
LREGISTRY IS A STATIC LEARNING FILE

NEW CAS INFORMATION USE POLICIES, ENTER HELP USAGETERMS FOR DETAILS.

FILE BEILSTEIN
FILE LAST UPDATED ON OCTOBER 10, 2005

FILE COVERS 1771 TO 2005.
FILE CONTAINS 9,363,954 SUBSTANCES

>>>PLEASE NOTE: Reaction Data and substance data are stored in separate documents and can not be searched together in one query. Reaction data for BEILSTEIN compounds may be displayed immediately with the display codes PRE (preparations) and REA (reactions). A substance answer set retrieved after the search for a chemical name, a compounds with available reaction information by combining with PRE/FA, REA/FA or more generally with RX/FA. The BEILSTEIN Registry Number (BRN) is the link between a BEILSTEIN compound and belonging reactions. For mo detailed reaction searches BRNs can be searched as reaction partner BRNs Reactant BRN (RX.RBRN) or Product BRN (RX.PBRN).<<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE <<<

****
* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST. *
* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS. *
* FOR PRICE INFORMATION SEE HELP COST *
****

NEW

*** PATENT NUMBERS (PN) AND BABS ACCESSION NUMBERS (BABSAN) CAN NOW BE SEARCHED, SELECTED AND TRANSFERRED.**

*** NEW DISPLAY FORMATS ALLREF, ALLP AND BABSAN SHOW ALL REFERENCES, ALL PATENT REFERENCES, OR ALL BABS ACCESSION NUMBERS FOR A COMPOUND AT A GLANCE.**

FILE MARPAT
FILE CONTENT: 1988-PRESENT (VOL 143 ISS 24)(20051211/ED)

MOST RECENT CITATIONS FOR PATENTS FROM FIVE MAJOR ISSUING AGENCIES (COVERAGE TO THESE DATES IS NOT COMPLETE):

US 6943267 13 SEP 2005
DE 1020040544 15 SEP 2005
EP 1577935 21 SEP 2005
JP 2005272454 06 OCT 2005
WO 2005097137 20 OCT 2005

Expanded G-group definition display now available.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

MARPATpreviews will be removed from STN on December 31, 2005.

FILE USPATFULL
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 15 Dec 2005 (20051215/PD)
FILE LAST UPDATED: 15 Dec 2005 (20051215/ED)
HIGHEST GRANTED PATENT NUMBER: US6976271
HIGHEST APPLICATION PUBLICATION NUMBER: US2005278816
CA INDEXING IS CURRENT THROUGH 15 Dec 2005 (20051215/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 15 Dec 2005 (20051215/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2005
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2005

>>> USPAT2 is now available. USPATFULL contains full text of the <<<
>>> original, i.e., the earliest published granted patents or <<<

>>> applications. USPAT2 contains full text of the latest US <<<
>>> publications, starting in 2001, for the inventions covered in <<<
>>> USPATFULL. A USPATFULL record contains not only the original <<<
>>> published document but also a list of any subsequent <<<
>>> publications. The publication number, patent kind code, and <<<
>>> publication date for all the US publications for an invention <<<
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<
>>> records and may be searched in standard search fields, e.g., /PN, <<<
>>> /PK, etc. <<<

>>> USPATFULL and USPAT2 can be accessed and searched together <<<
>>> through the new cluster USPATALL. Type FILE USPATALL to <<<
>>> enter this cluster. <<<
>>> <<<
>>> Use USPATALL when searching terms such as patent assignees, <<<
>>> classifications, or claims, that may potentially change from <<<
>>> the earliest to the latest publication. <<<

This file contains CAS Registry Numbers for easy and accurate substance identification.

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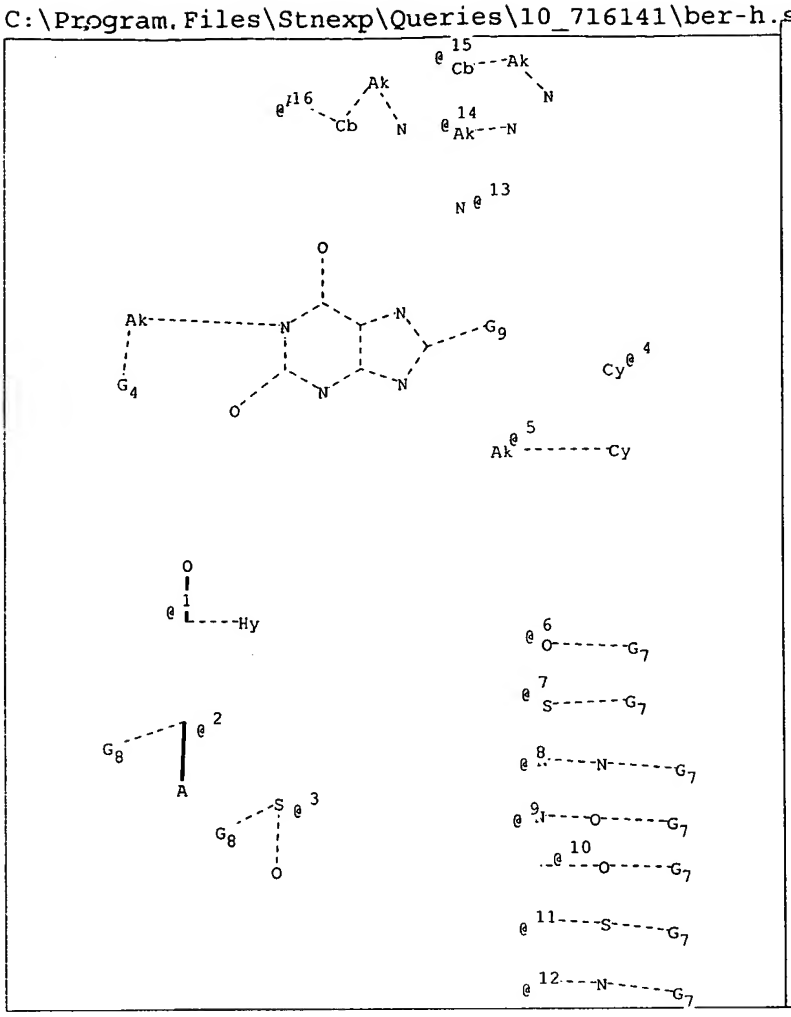
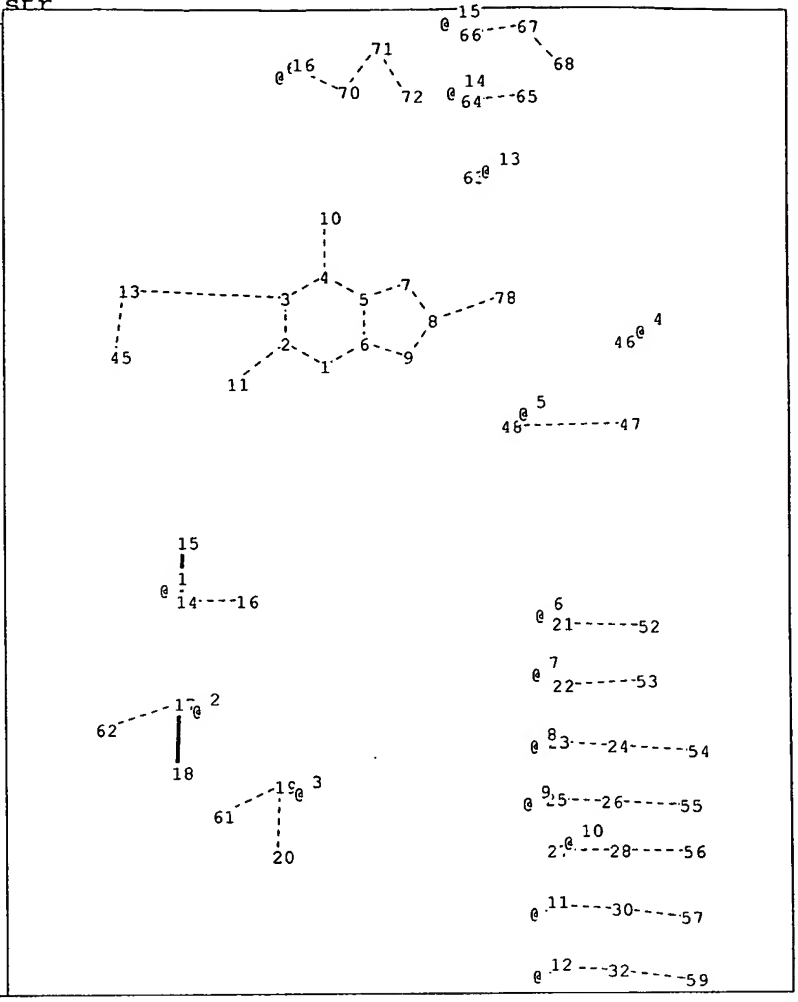
C:\Program Files\Stnexp\Queries\10_716141\ber-h.str

structure "L 27"





chain nodes :
10 11 13 14 15 16 20 45 46 47 48 52 53 54 55 56 57 59 64 66 67 69
70 71 78
ring nodes :
1 2 3 4 5 6 7 8 9
ring/chain nodes :
17 18 19 21 22 23 24 25 26 27 28 29 30 31 32 61 62 63 65 68 72
chain bonds :
2-11 3-13 4-10 8-78 13-45 14-15 14-16 19-20 21-52 22-53 24-54 26-55 28-56
30-57 32-59 47-48 64-65 66-67 67-68 69-70 70-71 71-72
ring/chain bonds :
17-18 17-62 19-61 23-24 25-26 27-28 29-30 31-32
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9
exact/norm bonds :
1-2 1-6 2-3 2-11 3-4 3-13 4-5 4-10 5-6 5-7 6-9 7-8 8-9 8-78 13-45 14-15
14-16 17-18 17-62 19-20 19-61 21-52 22-53 23-24 24-54 25-26 26-55 27-28 28-56
29-30 30-57 31-32 32-59 47-48 64-65 66-67 67-68 69-70 70-71 71-72

G4:[*1],[*2],[*3]

G7:[*4],[*5]

G8:[*6],[*7],[*8],[*9],[*10],[*11],[*12]

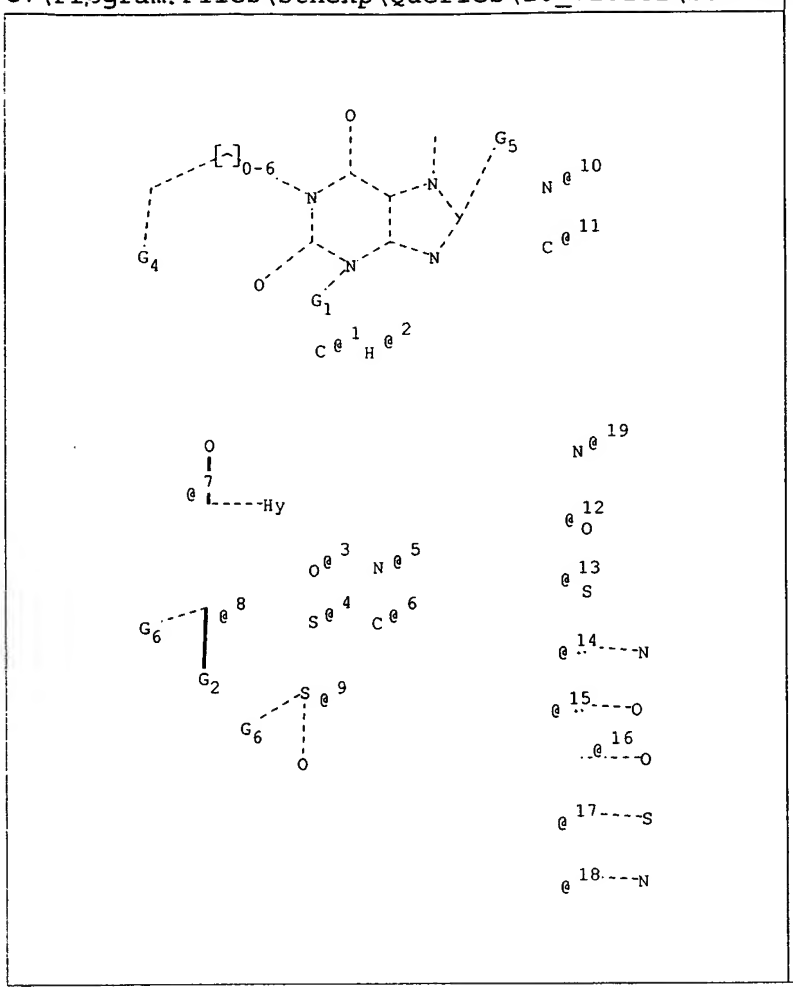
G9:[*13],[*14],[*15],[*16]

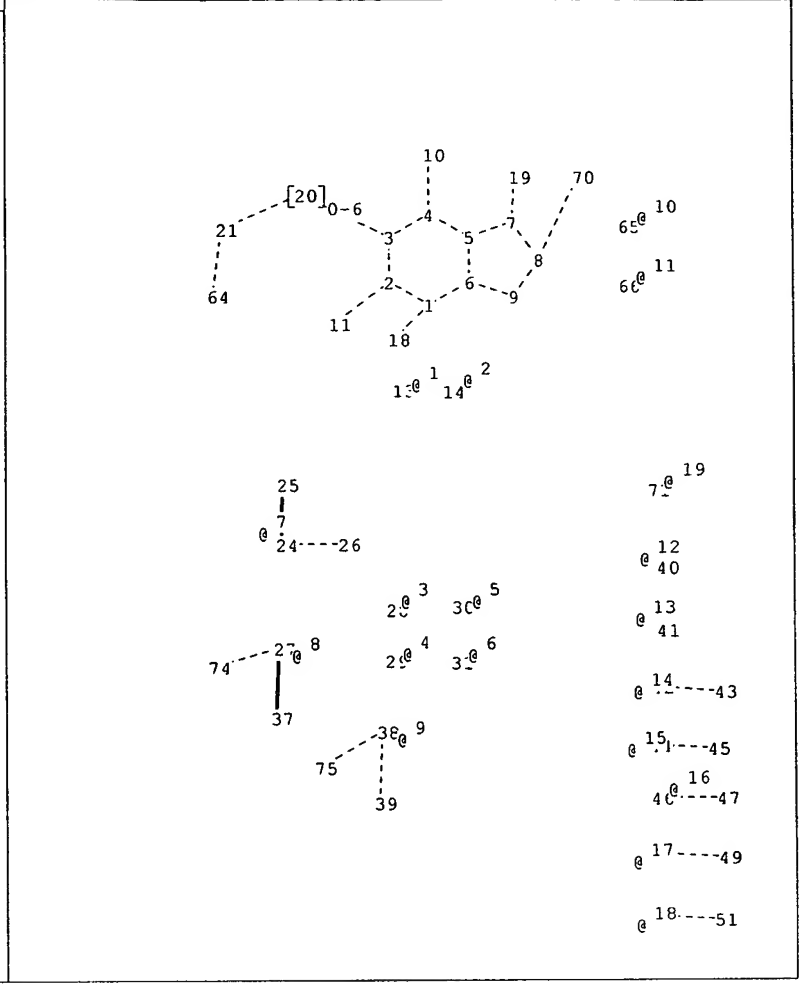
Connectivity :
2:3 E exact RC ring/chain 4:3 E exact RC ring/chain 9:2 E exact RC ring/chain
10:1 E exact RC ring/chain 11:1 E exact RC ring/chain 20:1 E exact RC ring/chain
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS
11:CLASS 13:CLASS 14:CLASS 15:CLASS 16:Atom 17:CLASS 18:CLASS 19:CLASS 20:CLASS
21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 29:CLASS
30:CLASS 31:CLASS 32:CLASS 45:CLASS 46:CLASS 47:CLASS 48:CLASS 52:CLASS 53:CLASS
54:CLASS 55:CLASS 56:CLASS 57:CLASS 59:CLASS 61:CLASS 62:CLASS 63:CLASS 64:CLASS
65:CLASS 66:CLASS 67:CLASS 68:CLASS 69:CLASS 70:Atom 71:CLASS 72:CLASS 78:CLASS
Generic attributes :
16:
Saturation : Unsaturated
Number of Hetero Atoms : less than 2
Type of Ring System : Polycyclic
46:
Saturation : Unsaturated
47:
Saturation : Unsaturated

Element Count :
Node 16: Limited
N,N1

C:\Program Files\Stnexp\Queries\10_716141\ber-c.str

structure "L12"





chain nodes :
10 11 14 18 20 21 24 25 26 39 64 70
ring nodes :
1 2 3 4 5 6 7 8 9
ring/chain nodes :
13 19 27 28 29 30 31 37 38 40 41 42 43 44 45 46 47 48 49 50 51 65
66 71 74 75
chain bonds :
1-18 2-11 3-20 4-10 7-19 8-70 20-21 21-64 24-25 24-26 38-39
ring/chain bonds :
27-37 27-74 38-75 42-43 44-45 46-47 48-49 50-51
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9
exact/norm bonds :
1-2 1-6 1-18 2-3 2-11 3-4 3-20 4-5 4-10 5-6 5-7 6-9 7-8 7-19 8-9 8-70
20-21 21-64 24-25 24-26 27-37 27-74 38-39 38-75 42-43 44-45 46-47 48-49 50-51

G1:[*1],[*2]

G2:[*3],[*4],[*5],[*6]

G4:[*7],[*8],[*9]

G5:[*10],[*11]

G6:[*12],[*13],[*14],[*15],[*16],[*17],[*18],[*19]

Connectivity :
2:3 E exact RC ring/chain 4:3 E exact RC ring/chain 9:2 E exact RC ring/chain
10:1 E exact RC ring/chain 11:1 E exact RC ring/chain 39:1 E exact RC ring/chain
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:CLASS
11:CLASS 13:CLASS 14:CLASS 18:CLASS 19:CLASS 20:CLASS 21:CLASS 24:CLASS 25:CLASS
26:Atom 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 37:CLASS 38:CLASS 39:CLASS
40:CLASS 41:CLASS 42:CLASS 43:CLASS 44:CLASS 45:CLASS 46:CLASS 47:CLASS 48:CLASS
49:CLASS 50:CLASS 51:CLASS 64:CLASS 65:CLASS 66:CLASS 70:CLASS 71:CLASS 74:CLASS
75:CLASS
Generic attributes :
26:
Saturation : Unsaturated
Number of Hetero Atoms : less than 2
Type of Ring System : Polycyclic

Element Count :
Node 26: Limited
N,N1